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COPY FOR ADVERTISEMENTS.

Advertising copy (changes or new advertisements) should reach us Saturday Morning to insure insertion in the issue of the following week.

For the first issue in the month we should receive copy by Friday Morning of the week preceding.

THE DAILY BULLETIN of the Manufacturers' Record is published every business day in the year for the purpose of aiding manufacturers and business men generally who need to keep in daily touch with the new industrial, railroad and financial developments of the South and Southwest. Supplementing and in connection with the work of the Manufacturers' Record, it is an invaluable aid to all who are seeking business in the South and Southwest, the most wonderfully endowed section of America, where industrial, railroad and financial activity is creating an ever-widening market for machinery of all kinds, railroad equipment and building supplies, and for financial operations, etc., and where the knowledge and skill of the engineer and expert will find their largest field of operation.

The Daily Bulletin is intended simply to cover every day the work of the "Construction Department" of the Manufacturers' Record in reporting every new mining, manufacturing, railroad and financial enterprise organized in the South and Southwest, and it is not intended to be a general daily newspaper. To all who want to be advised every day of every new enterprise organized in that section it is invaluable.

A SHORT ON COTTON.

On August 20 last Secretary Wilson of the Department of Agriculture issued an interview bearing on the cotton market. A couple of days later Gen. M. C. Butler of South Carolina, who has devoted many years to the subject of cotton-growing, sharply criticised Secretary Wilson and gave unstinted praise to his "zamblers," Messrs. Brown and Hayne, the leading bulls of the moment. In reply Secretary Wilson was quoted on August 24 as follows:

I hope the business men of whom General Butler speaks will see to it that these prices continue until the cotton grower sells the coming crop. If that should be done, I will make a trip to South Carolina, find General Butler, if he should be there, take off my hat to him and say to him that I regard him as a great public benefactor, who has been

able to see further ahead into the future than we poor fellows of the Department of Agriculture.

It is, perhaps, needless to refer to the events, distressing from the Agricultural Department's standpoint, that have followed that interview of August 20. But it may be suggested that the wild geese have long since winged their Southern flight, that the walking is good, that the air of South Carolina is salubrious at this season, and that General Butler would probably give a warm welcome to his defeated rival in cotton prognostications. Certainly, there should be an effort to make good the bet.

Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 56 and 57.

THE MAIN ISSUE AS TO PANAMA NOT TO BE BECLOUDED.

Maintenance of national honor and of national integrity remains the fundamental issue in the Panama question.

Substantial public opinion is stronger than ever for the construction of an isthmian waterway, even should it involve the engineering difficulties of the Panama route. That opinion abhors, however, the suggestion that the political advantage of any party or the material advantage of any section could justify any plan for the construction of the canal in disregard of the Constitution, in violation of statutes, in evasion of an act of Congress and in contempt of the ordinary decencies of national life.

The issue has been precipitated by the administration, constituting only a part of the government of the United States. It has been met in another branch of that government so successfully as to bring into powerful action the conservative press of the country, upon which the people depend for their immediate influence upon the government.

Ambition to seize an only opportunity to wrest the senatorial toga from present wearers and inability of would-be leadership to measure up to the responsibilities of statesmanship have given the issue a superficial tinge of party politics. Equally superficial appeals to sectionalism have been made in the miserable skeleton of an alleged symposium of Southern commercial opinion. But the attitude of Senator Gorman on one side and on the other of Senator Hoar in their determination to compel full information about the events at Colon in November weaken arguments addressed to partisanship, while the daily press of the South reveal the growth there of a decided sentiment against sectional advantage at the sacrifice of principle.

To be sure, the Atlanta Constitution has published an editorial quoted by the canal-at-any-cost promoters as unanswerably convincing. But is that so? Its strongest point seems to be its statement that "Senator Hoar can afford to

fight the canal so long as Boston is building enormous terminal facilities to handle the ocean-bound freights of the transcontinental railroads." Senator Hoar, if he should depend upon the weakness of such logic to maintain his position, could readily suggest that the simultaneousness of the support of the administration's undertaking by Governor Terrell of Georgia and by the editor of the Atlanta Constitution was something more than coincidence; that Mr. Terrell's term expires within less than a year and that he would like to become United States senator on the canal issue if circumstances made that practicable, and that the editor of the Atlanta Constitution might like to use the same issue to become governor of Georgia on his way to the United States Senate. Which, of course, would be doing as great an injustice to the governor of Georgia and the editor of the Constitution as the latter has done to Senator Hoar. He might as well have asserted that Senator Gorman, whom, by the way, it failed to mention, has taken his stand above campaign expediency because the Wabash is looking to Baltimore as its great seaboard terminal.

Still, the Constitution is not alone in its weakness. There is that journalistic enterprise entitled "Consensus of Opinion among Boards of Trade in Southern Ports That Opposition in Senate to Ratification Should Cease." The aforesaid consensus consisted in dispatches from seven Southern ports. Five of them were signed by presidents of commercial bodies, of whom three wrote in the first person, and one backed up his individual opinion with the statement "I must decline, however, to express myself officially, and thus commit the Chamber of Commerce, without first conferring with its leading members." The dispatch from the sixth port stated that the chairman of the Board of Trade was out of the city "and no member is willing to express an opinion on behalf of the Board on the necessity for the demerits passing the Panama treaty." The president of the Board of Trade of the seventh port could not be found, but the dispatch from there recorded the passage of a resolution by an extra session of the legislature instructing the senators from Louisiana to vote for the ratification of the treaty, the legal force of which resolution being rather questionable in the light of Article 75 of the constitution of the State, which provides that "the power to legislate shall be limited to the objects specially enumerated in the proclamation convening such extraordinary session."

These efforts to becloud the situation are on the low par with those made by the administration to bolster its unjustifiable course. They will not silence the questions raised in the Senate of the United States, which are these:

Have oaths to support the Constitution and the laws of the United States been violated?

Has the provision of the Constitution that Congress shall declare war been violated?

Has a specific instruction in an act of Congress been violated?

Has a statute of the United States for the maintenance of neutrality been violated?

Has the law of nations resting upon the honor of the individual nations been violated?

Is the United States government to epitomize the international code in one sentence, "Might makes right," and consequently to affirm the same principle for the control of its own affairs?

That is the question.

WHITES AS COTTON-GROWERS.

When the whites have become the majority among cotton-growers the question of the South's premiership in cotton production will no longer be debatable. Four months ago the Manufacturers' Record published an elaborate article showing that the negroes were becoming of less and less importance in cotton fields. One of the illustrations of that tendency was given in facts about Texas, where more than one-third of the crop of 1900 was ginned. Of the total Texan crop of that year more than 41 per cent., or 1,413,102 bales, were ginned in eighteen counties. In every one of those counties the whites were largely in the majority, their total being 692,453, while the total of the negroes was 137,481. Between 1890 and 1900 the white population of the State increased 37 per cent. and of the eighteen counties 41 per cent., and the negro population of the State increased 27 per cent. and of the eighteen counties 26 per cent. In the meanwhile the production of cotton in the eighteen counties increased 193 per cent. In one county the production of cotton increased from 37,094 to 70,963 bales, the white population increased from 34,208 to 47,629 and the negro population decreased from 2525 to 2456. What is true of Texas in this respect is emphasized in Oklahoma and Indian Territory. Many of the cotton-growers in those comparatively new fields have come from the older Southern States and have thereby reduced the proportion of whites among the cotton-growers, which has also been reduced by the opportunities for employment given the whites by the cotton mills. But that the advantage gained by the occupation of whites as cotton-growers is not monopolized by the newer fields appears in an article published on another page of this week's issue of the Manufacturers' Record. The article is from the pen of President J. C. Hardy of the Mississippi Agricultural College, who presents the following facts:

Lowndes county, with three negroes to one white man, having 21,972 blacks and 7121 whites, requires 3.15 acres to make a bale of cotton, while Jones county, with three whites to one negro, having 13,156 whites and 4670 blacks, requires 1.98 acres to make a bale. The farm lands of Jones county are valued, as found in the census report, at \$2.85 an acre, and the farm lands of Lowndes county are valued at \$9.38 an acre. Yet the poor lands of Jones county, under intelligent cultivation, produced nearly twice as much per acre as the rich lands of Lowndes county when cultivated mostly by negroes. Noxubee

county, with more than five blacks to one white, having 26,146 blacks and 4699 whites, requires 3.50 acres to make a bale of cotton, while Union county, with three whites to one black, having 12,380 whites and 4142 blacks, requires only 2.56 acres to make a bale. The farm lands of Noxubee county are valued at \$7.12, and the lands of Union are valued at \$4.81. Hinds county, with three negroes to one white man, having 39,521 blacks and 13,037 whites, requires 2.50 acres to make a bale, while Perry county, with more than two whites to one negro, requires only 1.96 acres to make a bale. The farm lands of Hinds are valued at three times as much as are those of Perry. In the counties of Leflore, Bolivar and Washington, where they have about eight negroes to one white man, but almost without exception the negroes are under white managers, they make one bale to every acre and a-half, while in Lowndes, Noxubee and Monroe, where not many white managers are employed, they make on an average about one bale to three acres. While this difference is partly caused by a difference in the fertility of the two groups of three counties, yet the principal reason is due to the superior intelligence used in the management of the first group. This is proven by the fact that in every comparison made between a white county and a black one the black was the most fertile, yet the white was nearly twice as productive.

Here is one of the strongest arguments that has been presented for some time for the gradual supplanting of the blacks in the cotton fields. For some years that must come about through immigration, and, with the steady demand for negroes in lumbering, railroad construction, mining and other heavy developmental work in the South, the problem is likely to be one of securing a sufficient number of whites for the fields awaiting their intelligent labor. The facts cited about Texas and about Mississippi, however, showing what whites are doing and what they can do, are likely to remove many false impressions about conditions in Southern agriculture and thereby encourage the movement of white farmers to the South.

NEW RAILROADS FOR 1904.

The annual review of railroad construction in the South and Southwest published last week by the Manufacturers' Record shows that the promise of the year was well fulfilled, the track laid amounting to a mileage of 3707, or 71.6 per cent. of the total projected at the beginning of the year. It must not be forgotten that this was accomplished in the face of opposing conditions, including not only difficulties of construction, but scarce and high labor and a straitened financial market. Moreover, a considerable part of the mileage uncompleted—which it had been proposed to finish during the year—is not abandoned, but is still under construction and will be carried through as speedily as possible.

Among the lines so delayed are the Norfolk & Western's low-grade route from Naugatuck to Kenova, W. Va., fifty-nine miles; the Chesapeake & Ohio's Big Sandy extension from Whitehouse, Ky., to Elk Horn City, Ky., seventy-seven miles; the Knoxville, Lafollette & Jellico Railroad (Louisville & Nashville system), on which fifty miles are yet unfinished, and the Seaboard's Atlanta & Birmingham extension, 168 miles. Other companies which a year ago proposed to make extensions have not given up the idea of building them, but have deferred construction to await more favorable circumstances for financing their projects.

Nevertheless, there is a large amount of new line projected for 1904—more than was built this year, the total in sight being 4171 miles, and it is, moreover, all of a character which makes it appear probable that it will be constructed. It is also notable that next after Texas—which has in prospect

nearly 1000 miles for next year—it is in West Virginia that the largest amount of mileage is to be built, her total being 422 miles, and Mississippi is the third State in line, with 315 miles projected. In West Virginia this is because of the great coal, iron and timber development which is under way, and in Mississippi because of timber development. A year ago Oklahoma, Indian Territory and Missouri were the great railroad-projecting regions next after Texas, which then, as now, led the van. Yet Oklahoma, Indian Territory, Arkansas and Louisiana are again projecting a great deal of new line, as are other States farther east.

Considering the general prosperous and hopeful outlook in the South and Southwest, 1904 bids fair to be a record year in the matter of railway-building in those sections of the country. Not only are existing lines either constructing or planning extensions, but new corporations which have not yet struck a pick on their rights of way are preparing to put construction forces in the field. Much, however, and in some instances all, depends upon the state of the financial markets in the North and East, whence must come the bulk of the money necessary to build the new lines. But it is not improbable that the future prosperity of the South and Southwest, now so thoroughly well assured, will have the effect of drawing thither capital which could not be commanded by projects elsewhere and which in other years would be distributed over the entire country.

The assumption is therefore warranted that the region south of the Ohio and Missouri rivers and extending from the Atlantic coast to the Rio Grande will witness in railway-building during the coming year an almost unprecedented activity.

THE STRANGE EFFECT OF A CHRISTMAS DINNER.

Our vigorous and vituperative friend, the Charlotte (N. C.) News, gave last week a signal exhibition of the never-to-be-depended-on effects of a Christmas dinner. On the night before Christmas, when all through the house not a creature was stirring, not even a mouse, the editor, instead of settling himself for a long winter's nap, was revolving in his head an article designed to deal with an ex-governor of North Carolina, entitled "Another Slanderer of His Own People," and introduced as follows:

"It has been our observation that the men who make themselves conspicuous by the abuse of their own country or section or State are generally disappointed about something. In the language of politics, they are soreheads. We cannot help thinking that if Mr. Walter H. Page's newspaper venture in North Carolina had been successful he would never have said that the English men of the Southern States are a hundred years behind their brethren in every part of the world, in England, Australia and in the Northern and Western States. And we have the same theory of disappointed ambition as to some more recent efforts to make a stir by denouncing things Southern."

That was evidently intended to be a very, very sharp criticism of Walter H. Page, and was published on Christmas Day. Then the Christmas dinner intervened, with the result that on December 26, the very next day, in an article which is called "The Whine of the Injured Canine," the Charlotte News classed Walter H. Page among "a high-minded and honorable set of Northern and Southern gentlemen."

Query—What did the editor of the Charlotte News have for dinner?

For, that unknown quantity alone must account for the radical shift of the Charlotte News' opinion of Mr. Walter H. Page, unless it was a case of desperate effort to find some one to bulwark it while it hugged to its breast its own weird, phantasmagoric theory about certain sociological manifestations in the South which has been in camphor in vain since last spring, and is now exhibited again to a cruel, cruel world in all its tattered and moth-eaten attire. Some of its lineaments, however, are discernible. Instead of reasoning are seen such potent arguments and naughty, naughty words as "cad," "malicious falsehood," "suggestio falsi," "mud slinging," "infamy," and rather a new one, "Herodian," derived, probably, from the contiguity of the Christmas-tide.

Still, that did not justify the Charlotte News in calling one of its own productions "The Whine of the Injured Canine," and the Manufacturers' Record must protest against such self-depreciation.

THE SOUTHERN FARM MAGAZINE.

Through the co-operation of several officials interested in attracting immigrants the Southern Farm Magazine presents in its January issue nearly five pages of letters from Northern and Western men who have found congenial and profitable homes in Southern States, ranging from North Carolina to Texas, some of whom have come from points as far removed as Connecticut and Kansas, and are largely written by men who have lived long enough in their new Southern homes to be able to write with authority of experience of conditions and possibilities there. All of them have succeeded, whether in general farming, in occupation in trucking or in special lines of agriculture or in business. Not a few of them have, at the same time, found in the genial climate of their adopted homes the means of checking disease and of restoration to health.

It is no wonder, therefore, that they are enthusiastic about the South and are eager that their less fortunate brethren elsewhere should follow their example. One of these correspondents, after detailing the many advantages of the South, expresses surprise that men from the rest of the world are not flocking thither by the thousands. That flocking has begun. The energetic work of the railroads—some of it going back for ten or fifteen years, some of it of more recent time—is beginning to have its effect. It is widening the publicity about resources of the South, only necessary to be understood to attract an ever-increasing host of settlers, and it has laid the foundations for a systematic cultivation of immigration, without which any such movement would not realize its full potentialities.

One of the elements of this cultivation is a record of what actual settlers have accomplished. That is more effective in overcoming hesitation about changing to the South than all of the enthusiastic descriptions of promise in the world. The letters are consequently of great value to the homeseeker. They cover a variety of localities and a wide range of crops. They should be powerful arguments in attracting thrifty and progressive men from the North and West into the South.

These letters may be considered as part of the work suggested in a special article in the Southern Farm Magazine by Mr. Thomas P. Grasty, in which he calls attention to the ripeness of the time for making more widely known than ever the advantages and opportunities of the South. The eyes of the country are upon that section's promise in agriculture and industry, and intelligent and persistent work upon practical lines must result in

a great accession to the South of men and money.

Other articles of special interest, in addition to the monthly practical talk of Col. J. B. Killebrew, deal with experiments in the growing of alfalfa, with cotton and its pressing problems, with winter legumes, with thoroughbred cattle, with immigration in general and other topics. "Panama and the South" and "Humanity and the Negro," as discussed by Peter Pechin, bear directly from a novel point of view upon two important questions now before the public.

The Southern Farm Magazine is published monthly by the Manufacturers' Record Publishing Co., Baltimore, Md. Its regular subscription price is \$1 a year. A special offer of a subscription of twenty-five cents a year, now open, will close on January 31.

ON CORNERS.

Amid the ceaseless clamor against corporations, much of it as absolutely false as the present clamor against the high price of cotton, which is charged against speculators, who, in this case, are called gamblers, the following letter from P. J. Coston of Washington, D. C., which appears in the New York Sun, is refreshing:

"My attention was attracted today to a headline in the Sun over a dispatch from Lincoln, Neb. It was 'War on Rockefeller's Gift,' and on reading further I found that some newspaper out there was opposed to accepting a certain donation from Mr. Rockefeller 'for the reason that his possessions are tainted with the vice of oppression,' and, I take it, this oppression is caused or produced by the Standard Oil Co.

"Now, I don't own any Standard Oil stocks or bonds, and don't know any person who does, but I have lived three winters in Nome, Alaska, where just now there are about eighteen hours of darkness each day.

"The temptation to merchants and speculators to corner anything in that market by which a little money can be made seems to be irresistible. The suspicion of a shortage in any staple immediately sends the price to the top notch.

"But there is one commodity that the speculator cannot control, and that is oil. The Standard Oil Co. has a depot there, and it makes no difference what methods are adopted by the speculator, as long as there is a gallon left in the warehouse of the company the price is just the same. Efforts have been made and carefully planned to 'corner' the market, but always without success; a merchant or an individual can only purchase what the company decides he needs for his trade or consumption, and neither money nor influence has ever been able to get more. It was discovered one winter that the company was short, owing to an unsuspected leakage. An enterprising merchant bought all he could from other dealers and individuals, and when he got all he could outside the company he jumped the price \$20 a case—a case consists of two five-gallon cans—but the company sold out its last drop at the old price of \$4.50, and happened to have enough for use till the long hours of daylight.

"What is true of Nome in this regard is true of the Yukon river country and Dawson. Before the company established its depot at Dawson oil was anywhere from \$15 to \$50 a case, but the minute the company's first cargo landed the price was fixed by it at \$7.50, where it has remained ever since.

"The company has the profound respect and admiration of the residents of Alaska, certainly."

THE PROMISE OF 1904 FOR THE SOUTH.

Its Prospects and Present Conditions as Viewed by Railroad Officials.

Leading railroad officials of the South and Southwest tell in this issue of the Manufacturers' Record a story of progress and prosperity such as could never before have been presented of that section. Agriculturists, fruit-growers, stock-raisers, as well as woodworkers and timber operators, are coming into the South from all sections of the older and more settled States, and the development in every line of husbandry and industry is proceeding at a rate never before equaled in the South. More vigorous efforts to attract outsiders are being made by the railroads than ever before, and it would seem that fruition is at hand for the hopes that have so long been entertained for a great southward movement of population; that the rewards of work long and faithfully performed in its behalf are beheld in every part of the South in a measure heretofore unknown. All the world seems now to be in a mood to listen to the story of the great and varied resources and possibilities of this favored section, and, as clearly stated by one of the leading railroad officials, "what the South most needs now is to keep its resources constantly before the world and to force its progress vigorously into every available market. Its rapid development will more or less depend upon the efforts of its people to advertise what they possess. The people of the South must compete for business and reach out for desirable settlers, for upon a permanent citizenship possessing intelligence and character depends the enduring prosperity of any section."

From every railroad come reports of a great increase in industrial development along its line, an increase in immigration from other sections, and a most marked increase in the inquiry from people in the North and West and Canada, and even from foreign lands, about the advantages of the South, and with concerted effort at this, which seems to be the psychological time in the South's material interests, the evidences are everywhere seen that it is possible to bring about within the next five years a greater increase in immigration and a greater movement of men and money to the South than we have had in the last twenty years.

The record for the year as presented by many of the foremost railroad officials of the South is one unbroken story of immigration, investment and development, and there is nothing but optimism and confidence in forecasts for the future. The good crops and the large prices that prevail have brought a flood of money into the South such as it never before has enjoyed, and prosperity is abundant and universal.

Various features of the development and progress are set forth in these letters which follow. Only a hint of the actual conditions that exist can be afforded by the letters and telegrams which we publish, but they contain much of instruction and suggestion. New railroads constructed, shipping facilities to hitherto somewhat isolated places, the remarkable growth of the rice industry in the Gulf coast States, the development of the fruit and trucking interests, progress in dairy-ing and stock-raising, greater activity in mining and oil production, more cotton acreage following the vast operations of timber men, the growth of industries and the creation and rapid increase of manufacturing cities—all these, and more, are set forth in the replies here given, and form a chapter full of inspiration and rejoicing for every friend of the South. The

conditions here revealed are likely to surprise even Southern people themselves. To those outside this section they will prove, in addition, a chapter of instruction which must arouse increased interest and still further turn the stream of investment and immigration in this direction.

The South Just Awakening to Its Possibilities.

J. T. Harahan, second vice-president Illinois Central Railroad Co., Chicago: To my mind the South is just awakening to its possibilities. No other section of the country has such a bright future. Its recovery from the ravages of war was phenomenal, and its development during the past twenty years has been little short of marvelous, but its industrial activity has only begun. Our country, as a whole, has astonished the world by its wonderful progress and its stupendous undertakings, but no other section has forged ahead during the last generation like the South. Its whole industrial system was destroyed and its finances dissipated by the war, and it had to begin again on an entirely new basis. Its recovery, which was more rapid than even its best friends thought could be possible, was largely due to its many natural advantages—a very fertile soil; long growing seasons, in which more crops of various kinds can be raised than in any other part of the United States; a very desirable and healthful climate; vast forests of pine, cypress and hardwoods which are in great demand all over the world; an abundance of coal; rich deposits of iron and other ores in great quantities. In addition to being the garden spot of America, from an agricultural standpoint, its almost inexhaustible supply of timber, coal and iron, coupled with the fact that labor conditions are, and should remain, more favorable than in the North, would seem to make it almost certain that the South is destined to become the manufacturing center of the country.

The people of the South should not, however, neglect their opportunities. They should encourage the development of their resources by inviting capital to establish manufacturing industries in the South, instead of allowing the North to take their raw materials from them to be manufactured in the North, which is now in this way reaping many benefits which the South should enjoy. Some of our Southern States, instead of encouraging investors to locate within their borders, co-operating with them and fostering them in every way when established, have practiced extortion upon them, causing many contemplated industries to be abandoned and frightening away investors who might otherwise have been the means of great development. It is encouraging to note, however, that a more enlightened attitude is being taken, which will undoubtedly bring many beneficial results in an industrial way.

The South should also pay more attention to the diversification of its crops. On account of its fertile soil and favorable climatic conditions it is in position to raise more products profitably than any other section of the country. Such a course would fortify it against severe loss in case of the failure of the cotton crop, its great staple.

It seems to me that it would also be well for the South to devote more attention to the raising of stock, which industry in many parts of the South appears to have been neglected. The rais-

ing of more grain and stock, in addition to being of direct advantage to the South, would enable it to keep in its own section a great deal of money which it now has to send to the North in payment for grain, meats and other provisions.

Expects Nothing Short of Abundant Prosperity and Unprecedented Growth.

John Skelton Williams, president Seaboard Air Line system, Richmond, Va.: It gives me pleasure to say that I do not recall that I have ever seen in the past a more favorable prospect before any section of the country than that which the South faces at the present time. This situation is not caused entirely by the advance in the price of cotton, but is the result of conditions developed gradually and very substantially.

The coal and iron industries are evidently permanently successful, and give every promise of rapid increase, despite some temporary setbacks, which come to every business. The manufacturing industries in other lines have passed beyond the experimental stage, and represent the investment of many millions of dollars, which guarantees their permanence and a continuing and increasing demand for raw materials of all kinds, making a home demand for the farmers, especially for the very profitable truck and market produce.

Of course, the tremendous increase in the value of the cotton crop must act as a powerful stimulant. It has increased the profits of the cotton planter 500 per cent., and makes money in the South more abundant than ever before in the history of the section. This means not only a large demand for commodities and merchandise of every kind, but necessarily leaves funds available for investment in new manufactures.

The tendency of the farmer to put his surplus earnings into manufactures has been steadily increasing the last ten years. People who are familiar with local conditions, particularly in the States where many cotton mills have been built, know that frequently a large part of the stock of these enterprises has been subscribed by farmers around them. The success has been so general that continued progress in this direction may be looked for.

The lumber business in the South has developed remarkably, and this section is being looked to now as the chief source of supply. We have an enormous acreage in forest land, which offers a supply good for years to come, particularly in the mountain regions, where transportation facilities hitherto have been bad.

With coal and iron virtually in unlimited quantities, with lumber coming into the market in increasing volume month by month, with money abundant, farmers prosperous, a steadily-increasing demand for labor and manufacturing enterprises developing in every department, I cannot see any reason to expect anything short of the most abundant prosperity and growth beyond all precedent.

Fruition of Years of Intelligent Exposition of Southern Resources.

M. V. Richards, land and industrial agent Southern Railway, Washington, D. C.: Necessarily in close touch with the industrial field in the South, I am convinced that the immediate outlook is more favorable to development than ever in the past, since the number and importance of inquiries and demands for industrial locations and opportunities are markedly on the increase. Not only is there an active and heavy demand for information concerning industrial possibilities, but they come from new fields and along lines more widely divergent than ever before. Newer elements are enlisting, and there is evidence of a wider diversity than has in the past obtained.

The last few years have witnessed commendable progress in our textile industries and shown increase of capital, number of employes and increase of product such as never before has been our fortune. The outlook is most promising in this direction, and our progress in the past will undoubtedly be eclipsed by the events to which we are hastening. Aside from the certainty of the South holding its own as a producer and manufacturer of cotton and securing its full share of the world's trade in this staple, there are other industries rapidly becoming of prime importance in Southern development. Her natural resources in commercial timbers, coal, iron, marbles, tobacco and scores of other lines are beyond computation in quantity and value, and I anticipate a development in the near future which will add largely to its wealth and business influence.

Nor do I regard the outlook for Southern immigration less bright. Not only is there a constantly-advancing demand for homes by residents now of the North and West, but there are numerous calls from new quarters in the United States and Canada by farmers and others, whose good citizenship and intelligent thrift cannot fail to benefit the sections in which they locate. The South's immense domain of stock, fruit, grain and trucking lands is now and will continue more and more to be an inviting object of desire with the progressive and the thrifty, who, tired of the ever-narrowing boundary of opportunity in their present locations, seek the fields of promise, where there is full reward to energy and enterprise.

In fact, years of effort in bringing to such peoples knowledge of the resources and opportunities of Southern agricultural districts are rounding up in fruition at once gratifying to us and fortunate for our railway territory.

Looking for 100,000 New Settlers in Twelve Months.

John Sebastian, passenger traffic manager Rock Island system, Chicago: The Rock Island system covers a territory which is 1000 miles long by 1000 wide, supporting a population of more than 21,000,000 people and capable of supporting at least four times that many. This territory is more than one-half as big as Europe; the area is as great as the combined area of France, Germany, Italy, Spain, Austria-Hungary, Denmark, the Netherlands, Turkey, Switzerland and Greece, and the productive capacity is greater. In this territory is produced more than one-half the wheat, more than one-half the corn, nearly one-half the cotton, silver and gold produced in the United States. Here are the figures:

	Bushels.
Wheat—Rock Island States.....	301,222,400
All other States.....	221,008,000
Corn—Rock Island States.....	1,391,335,200
All other States.....	703,705,200
	Bales.
Cotton—Rock Island States.....	4,571,000
All other States.....	5,813,000

It can be seen at a glance from the above figures that here is an opportunity for consistent and intelligent immigration work such as is presented by no other railroad system in the world. At the present time this vast area, and especially that portion of it known as the great Southwest, is the scene of the greatest industrial activity and immigration movement in the history of the country, owing to its superior resources more than for any other one reason.

It was not until the early part of the year 1903 that a separate immigration department was organized. The work of this department since its inauguration has resulted in great good, and, from the present outlook, the best results from the work done during the past year are yet to

be attained, as the prospects for the year 1904 seem to be particularly bright.

The year just ending has witnessed wonderful progress and development throughout the vast territory served by the Rock Island system, especially in the Southwest. The great progress achieved is more than warranted on account of the unexcelled resources and possibilities offered in the way of superior agricultural and climatic conditions and openings for new industries of all natures.

The Rock Island system during the past year has aimed to present the possibilities of the great Southwest to the public through the medium of the leading magazines and newspapers in a conservative manner, dealing simply with facts and avoiding any advertising which might be construed as an attempt to boom any particular section. Our desire has been to attract the attention of settlers who are not afraid to work, and who, after a few years' residence in the Southwest, would, through their energy and thrift, be practically independent, as it has been our experience that a settler well pleased with the country constitutes the best immigration and advertising agent that a railroad company can possibly have affiliated with itself.

For example: I know a farmer and his family from Illinois that went to Oklahoma several years ago. This man has been successful and does not hesitate to advise his friends and relatives of this fact. Here is an extract from one of his letters which speaks for itself: "I came to this country from Illinois, where land rents for what it might be bought here and where land is harder to cultivate and requires fertilization to produce the same yield that we get here. This country is the best place for a young man with small means. There are so many chances here, but not so many who seek to improve them. This is surely a farmer's paradise."

Can anyone conceive of a better method than this for promoting and securing immigration for any particular section?

At the present time the immigration department of the Rock Island system is receiving daily in the neighborhood of 300 to 400 requests for information about the growing and prosperous Southwest from persons in all parts of the United States and Canada, while a great many have been received from the Philippine Islands, Hawaii, Cuba, England, Scotland, Ireland, etc. During the past year millions of pieces of printed matter have been sent out from this department, thousands upon thousands of letters have been written in answer to requests for detailed information from persons interested in the agricultural and industrial resources and conditions of the Southwest, as we believe in persistently following up each inquiry either by correspondence or personal solicitation. In many instances correspondence is carried on for months before a final result is reached.

We have such faith in the resources of the country tributary to the Rock Island lines that we in every case solicit a personal investigation on the part of the prospective homeseeker, investor or capitalist, and the results secured by this method are most gratifying.

To give an idea of the wonderful growth of certain sections of the Southwest along the Rock Island system during the past year I call to mind a town in Oklahoma that was unheard of January 1, 1903, and at the present time the population is 600, and it is steadily growing. During the year there have been established a \$50,000 wholesale grocery, employing eight men; a large brick plant, elevator, a \$20,000 cotton gin and many stores carrying stocks of merchandise val-

ued at from \$1000 to \$20,000. Nor is this anything out of the ordinary. This is simply one instance.

The man who makes up his mind to "try the Southwest" can do so with the consciousness that if he fails he will have no one to blame but himself, and that if he succeeds, as he is reasonably sure to do, the credit is not wholly his. No small portion of it is due to the conditions by which he is surrounded. We estimate that the increase in population at points along the Rock Island system in the Southwest alone during 1904 will be at least 100,000.

Resources of the Land Have Hardly Been Scratched.

Bryan Snyder, passenger traffic manager Frisco system, St. Louis, Mo.: Time was, not long ago, when the investor and the immigrant in the Southwest were of as totally different types as master and man. The investor was the man with money, and the immigrant was, for the most part, the man who needed money. During the past decade this difference has diminished in a marked degree. The farmer of the Southwest, who had appeared in the community as an immigrant, found himself in more respectable circumstances each year, and in an amazingly short space of time presented himself to the world as not only a well-to-do farmer, but, still better, as an investor, and this latter condition of the agricultural classes has become so marked that today the lines of ten years ago have practically been obliterated. This condition has been the effect of two causes. In the first place, the surplus earnings of farm lands have, in the hands of conservative farmers, become idle capital, and have been applied in most cases to the development of other resources of the same or neighboring localities. Again, investors who have entered the Southwest with the declared purpose of making industrial ventures have been attracted by the phenomenal profits in agricultural investments and have directed their efforts and capital in this direction. The lines of demarcation between the two classes is surely disappearing, and, like most natural outgrowths of civilization, the condition evolved has been a healthy one and has tended in both branches towards the upbuilding of the country. "The vacant land has all been taken up." This cry has been sounded for the past twenty years, and is, naturally, truer today than ever before, but the resources of the land have hardly been scratched, and in view of what has been accomplished in recent years it is but reasonable to look for even greater prosperity when the titanic forces of the Southwest have been coaxed into modern uses. There is still land to be had there at prices that appear ridiculous when its earning power is taken into consideration; there are mines that only await developments to yield fabulous returns to the investor; there are "infant industries" of which the future is too great to be forecasted, and there are timber reserves that increase in value year by year as the world's supply of lumber becomes more and more scarce. Capital is coming into the Southwest not only through outside enterprise, but through a force that is becoming more formidable every year, and that the profits of the sale of its own products. This latter source of development is becoming more potent daily, and the Eastern farmer or investor who secures a foothold there in good season is the man who combines wisdom with luck. The future of this vast stretch of country is secured beyond peradventure. The goal is in sight, and will, of course, be reached the sooner by the aid of outside capital, but that it will be reached

just as surely through the medium of its own vital forces no man can doubt who has investigated, even casually, the present standing and future prospects of "the great Southwest."

Population the Greatest Need in the Southeast.

W. W. Kent, general manager Chattanooga Southern Railroad Co., Chattanooga, Tenn.: The interests I represent are dependent considerably on the iron trade and timber and agricultural resources, but principally on the first mentioned, for the reason that the country adjacent to our line has a marvelous amount of iron ore; in fact, I do not know of a more fertile mineral valley than that which our railroad traverses. The wealth of iron ore, coal and timber in this section is practically beyond computation, and we also have in this locality one of the best fruit regions in the United States.

During the past few years, as we all are aware, the South has demonstrated its importance, not only in the great resources of minerals and agriculture, favorable climatic conditions, etc., but also as a manufacturing country, and it has been settled that where the raw goods are produced manufactured products can be made at less cost than if the cotton, iron, timber, etc., are shipped long distances to the factories, and this is proved by the large number of manufacturing establishments that have been and are being erected and placed in operation throughout the South, and the statements from those manufacturing show such good results. In my opinion, the greatest need of the so-called Southeastern territory, which is generally interpreted to be the country south of the Potomac and Ohio rivers and east of the Mississippi river, is to have a larger population. We have the strongest inducements to foreigners and the people from Northern, Eastern and Western States of any part of this country, and notably in cheap lands, equable temperature, and markets for all kinds of mineral, agricultural and manufacturing products, and the strong and growing tendency in the minds of the people to keep abreast of the times in all methods. It must be agreed that capital and labor must walk hand-in-hand, and the South has a plentiful supply of the last-mentioned, and it is of a good quality and obtained at lower prices than in the cold quarters of the North, and this can easily be explained in that it does not entail so much cost for living or for houses, for fuel and many other incidental expenses as in the North or Northeast or Northwest, and, although considerable capital has been invested in the industries and enterprises of the South, it is a marvel to me that more capital is not attracted to Southern investments, and particularly so on account of the low price of the mineral and agricultural lands, and the favorable conditions, beautiful climate, etc., as explained above. Great advance has been made during the past few years, and we predict that a much faster ratio will be made in the future. I congratulate your valuable publication and you, its great editorial principal, in the good part taken towards the development and gains the "Sunny South" has and is making. Let us forge ahead in that worthy endeavor and each do his part to add to the advancement of this country, and this and the coming generation will receive the reward of the increase and blessings.

Bringing in New People From the Rest of the Country.

T. L. Peeler, industrial agent Missouri, Kansas & Texas Railway Co., Dallas, Texas: So far as the country tributary to the Missouri, Kansas &

Texas Railway system is concerned the outlook could not be brighter. During the past year the Missouri, Kansas & Texas Railway has done a vast amount of advertising the resources of that section of the country traversed by its rails, which has been productive of a large amount of immigration to points in Texas and the Oklahoma and Indian Territories. Through its land bureau, which is composed of several hundred land and immigration agents located throughout the North and East, a large amount of literature has been distributed. During the past year at different times a very low colonist rate was put on from St. Louis, Hannibal and Kansas City to points in the Territories and Texas, which was taken advantage of by large numbers of people seeking new homes in the Southwest, and many immigrants were brought to this section in this way. While the cotton crop this past season was not as large as it should have been, owing to the ravages of the boll-weevil in the central and southern parts of the State, the farmers have derived remarkably high prices for what they did market.

The present indications are that a large acreage of wheat and oats will be planted this season in Northern Texas. In Southern Texas the cultivation of rice has grown to large proportions. While in 1895 there were only 2000 acres devoted to the production of rice, with a yield of 18,000 barrels, the acreage for 1903 was 215,000 acres, with a yield of 2,100,000 barrels, and it is expected that the rice acreage for 1904 will be increased to between 250,000 and 260,000 acres.

The early Irish potato crop in this section last year was a failure, but it is expected a large acreage will be put in this coming season, and if the crop turns out as well as expected the revenue derived from this source will bring thousands of dollars to the farmers of Texas.

On the whole, I think that the Southwest, especially Texas and the Indian and Oklahoma Territories, are in very prosperous condition at the present time, and everything points toward a continuance of the prosperity.

Hastening the Destiny of Southern Greatness.

T. Fay, general superintendent Morgan's Louisiana & Texas Railroad & Steamship Co., New Orleans, La.: The rapid development of the South during the past few years, in my opinion, has been due to the fact that a large portion of other desirable sections of the United States have been fast settling up, thus increasing land values, and the more important fact that the wonderful resources of the South have come to be better and more generally known. The extension and improvement of transportation facilities in the Southern States has been a potent factor in this development, not only from the fact that the transportation lines have been the foremost agency in advertising and disseminating knowledge respecting the great resources of the South, its cheap lands and their remarkable fertility, but they have brought many previously remote sections into close contact with the consumer through the medium of cheap and abundant transportation facilities and have afforded a market for the products of a largely increased area of Southern territory.

Trade and business extension can only attain its full degree when artificial conditions are added to natural conditions. This has been exemplified in all portions of this country, and particularly by the remarkable growth of the Pacific coast, following the binding together of the eastern and western seaboard by the several transcontinental lines. The general pros-

perous conditions resulting from the building of railroads into the vast productive territory north and west serve as object-lessons to prospective settlers and investors, who have sought and found in the fertile States south of the Ohio river opportunity for profit and the expenditure of energy and enterprise. The constantly constructing avenues for commercial extension in the more populous sections of the East and North forced attention to the prospects in the South, and capital was not slow to take advantage of the opportunities which it was found upon investigation the South generally afforded. No greater evidence can be produced in this connection than the development which has followed the exploitation of the rice fields in Southwest Louisiana and Southern Texas and the oil discoveries which have made these sections famous throughout the world during the past two years. Large sums of money have been invested in these channels alone, and rice lands formerly worth fifty cents and even less an acre have advanced to anywhere from \$15 to \$50 in the last sixteen years, and with the discovery of oil, lands supposed to contain it have increased to fabulous sums.

The present situation in cotton seems to point with prophecy to a continued increase in the development and wealth of the South for many years to come. It is not believed that the low cotton values which existed several years ago, prior to the time when this staple advanced in price to eight cents a pound and from that figure to the present high prices, will ever prevail again. Whilst the boll-weevil has agitated cotton circles and no doubt restricted the production to some extent in Texas, several of the other Southern States have gone actively to work to find some means of getting rid of this pest. The governor of Louisiana recently called the legislature of that State into special session to enact legislation giving certain powers to a board to be appointed to combat this evil, and there is no doubt that other Southern States will take hold of the proposition in the same vigorous manner. At this writing it is also quite probable that the general government will lend its potent aid towards the accomplishment of the same purpose. The increased price of cotton has placed many millions of dollars into the pockets of Southern farmers, which, added to the general circulation of money, is bound to improve other conditions in every line of trade.

The rice industry of the South is also in a prosperous condition, and with the large increase in home consumption and the probability of exporting it in the future to other countries, and especially to the distant possessions of the United States, gives rise to the belief that the consumption of this staple crop will for many years to come keep pace with the production, and thus maintain satisfactory prices.

What the South most needs is to keep its resources constantly before the world and to force its products vigorously into every available market. Its rapid development will more or less depend upon the efforts of its people to advertise what they possess. Immigration into the South is not as large as the movement into the West, though the latter does not offer as great a variety of advantages as the Southern territory, with its superb climate, almost continuous growing seasons, raw material and infinite variety of soils and agricultural conditions. The people of the South must compete for business and reach out for desirable settlers, for upon a permanent citizenship, possessing intelligence and character, depends the enduring prosperity of any section.

In some sections of the South, and es-

pecially in Louisiana, large areas of exceedingly fertile land which have heretofore not been susceptible to cultivation, through the push and energy of the people, are being reclaimed for the uses of man. Drainage districts have been created, to support which a tax is laid upon all the land benefited; canals have been dug and waste-places have been made to bloom; rivers contiguous to the Gulf have been locked to shut out salt water and keep within the locks an abundant supply of fresh water for irrigating purposes; and all these improvements have been brought about either by taxes, in the case of drainage districts, or by individual subscriptions on the part of the majority of the citizens interested.

In order for the South to attain its full degree of prosperity it will be necessary to increase its manufacturing industries. Manufacturing has tended largely to the aggregation of wealth enjoyed generally wherever it abounds, and the South must manufacture. The success which has generally followed the cotton-manufacturing industry in the South Atlantic States should prove a stimulus to other States of the South and an incentive to the local capitalist and progressive citizen to invest in such enterprises. The South today is probably the chief lumber-producing territory in the United States, but as a general thing its revenue is derived only from the raw product, and not from the conversion of the raw material into finished articles of trade. The pine and cypress lumber industry is making portions of the South prosperous, and bids fair to continue for many years to come; and it is unfortunate that nothing is done in the South in the way of tree-planting to replace the forests, which will eventually be cleared away. Outside of its agricultural possibilities the stored wealth of its mines—coal, iron, salt, sulphur and oil—will continue to insure a healthy degree of prosperity.

Whatever may be done to attract attention to the advantages of the Southern States, and whatever effort may be made to conspire to the immediate upbuilding of the South, such efforts can only anticipate what destiny has set forth. The varied and manifest advantages and opportunities afforded by every State of a glorious entirety must secure full recognition in time, and the eventual prosperity of the whole South will be but a part of the magnificent future in which the United States will ever serve as a guide to the nations of the earth.

What Five Years of Prosperity Will Accomplish.

E. W. LaBeaume, general passenger and ticket department St. Louis Southwestern Railway Co., St. Louis, Mo.: The outlook for industrial and immigration development in the South, in so far as this line and the territory it serves are concerned, is eminently satisfactory. The number of actual settlers from the North and middle West who have emigrated to the South country this year is considerably greater than for the twelvemonth preceding. I think there can be no question about this.

We have noticed within the year an awakening inquiry for investments in Southern lands coming from sources that until recently would not consider the South in placing money. This we regard as a good indication. Capital is wary, and will not enter a new field until thoroughly satisfied as to the soundness of conditions.

The trend of sentiment is unmistakably for the South and Southwest at this time. This fact is borne in upon us by the daily avalanche of inquiries from the Northern country. "Tell us about your country," they say; "we want to go to a milder cli-

mate; it's too cold up here; the winters are too long."

The outlook for 1904 is optimistic in the extreme. The work heretofore has been of a nature largely preparatory. The real movement, if yet begun, is in its incipency. Not while fertile lands, equal in productiveness to the \$100 to \$150 per acre lands of Iowa, Illinois, Indiana and Ohio, can be bought in Arkansas, Louisiana and Texas at \$15 and \$25 per acre, with advantages of climate and cost of living in favor of the latter—not while this great disparity in quoted values exists will the Southward movement abate nor reach its full flow.

Surprising as it may appear, within 150 miles of the city of St. Louis, almost within the shadow of the coming great World's Fair, one of the most fertile sections of this entire country has been overlooked by the homeseeker in his mad rush to the West and Northwest. With a soil whose richness is a marvel to the uninitiated, with accessible markets, ample transportation facilities, delightful climate and most of the advantages of the Northern community, land values here have been held at a tithe of their real worth, and have only begun to be appreciated.

The flood of immigration into this territory and rapidly enhancing values but emphasize the need of advertising Southern resources and Southern opportunities.

What is true of Eastern Arkansas is true of much of the South. The year 1904 must hold much of promise for the South. Given another five years of prosperity the South will amaze the world with her progress, her accumulation of wealth, her material growth.

Advance Rapid, But Solid and Lasting

J. W. White, general industrial agent Seaboard Air Line Railway, Portsmouth, Va.: Recently, while standing on the rear of the last car of a train, I met a party of New Englanders who were having their first trip through the South, and, learning that I was interested in its development, they "fired" question after question, until finally one of them said: "I wish you would tell me where I can find a typical Southern town. I mean by that, one where there are no industrial establishments, where the people take life easy, and are not troubled with business cares. The towns passed today have some manufacturing industry, or else carry a businesslike air. This is not the South I expected to see."

My reply was: "A few years ago your wish would have been gratified, so far as absence of industry is concerned, but I am unable today to direct you to the place you seek. The South has awakened from its former lethargy, and we hope in the years to come to see it the worthy rival of your more densely populated North. The town which we are nearing would have fully answered your desire three years ago, but now, through our efforts, it has six manufacturing establishments, has increased in population from 1000 to approximately 3000, and is daily increasing in importance."

The remarks with reference to the prominence of this town will apply with equal force to many others, and the illustration is given to show how ignorant many Northern people are of the real conditions existing in the South. There are many who think that Northern capital has been the sole agency for our development, and while it is true that quite a proportion of the capital invested came from that source, I believe if it were possible to strike a balance the honors would be about even.

Our advancement has been rapid, yet of the most solid and lasting kind, because there are natural bases for support. We

are in a state of infancy when considered with our possibilities, yet sufficiently mature to compete with the world. Our establishments are adapted to their locations, were prompted by natural conditions, and we therefore have advantages over similar concerns North; besides, we are immune from disagreeable and expensive features which are daily encountered by them, and are a factor in their operation which cannot be thrust carelessly aside or entirely ignored. That the manufacturers realize this state of affairs is proven conclusively by the numerous letters received asking for information in regard to the South, and at the same time setting forth their "tale of woe." I shall take this opportunity to say that while many recognize that they must change their location, they have the habit of making unreasonable demands upon communities in connection with their removal. These offers are daily declined because inconsistent with good business methods. The Southern people know that these concerns must eventually come, but even with a knowledge of this fact, they stand every ready to assist financially when the proposition is reasonable and businesslike. I may be accused of straying from the subject, but unquestionably this feature has a bearing on the future outlook, for it is my firm belief that many of the concerns referred to will come South. It may be in the distant future, but eventually we shall be able to include them in our list. Are we progressing? Certainly, if the progress of North Carolina for the past year can be taken as a guide in the calculation for other States, we need no further proof. I wish the figures for each State were available, but as they are not, I will quote North Carolina's advance, which is not only gratifying to its residents, but to everyone who is interested in the South's welfare. Between 1890 and 1900 the capital invested in manufacturing establishments increased \$43,758,000. For the fiscal year ending November 30 reports show \$21,882,000 invested in new enterprises. While the progress for ten years throughout the entire South was gratifying, what will it amount to if continued at this ratio?

Our existing establishments find it necessary to enlarge, and investigations are being made constantly by prospectors looking for investments; inquiries are being received daily from persons who are likely to be interested, and we therefore have reason to believe that the outlook for future development was never brighter.

Never in the history of the South has such interest been manifested in immigration. For years there was constant flow to the West, a proportion remaining in the East, but none for the South. We are within the influence of a new order of conditions. There is a power being exerted which says "the South must be peopled with a desirable class, who will help us and better their condition as well." Following this declaration came revivals of boards of trade and chambers of commerce banding themselves into State organizations, having as their object the presentation of facts and serving as guides to the prospector for investment and the homeseeker for a dwelling-place. The railroads have borne the burden of this task singly for years, and it is gratifying to us to know that each community will render its aid in proportion to its ways and means.

I believe that the South will be populated by a deserving class, yet it must be done in a systematic and methodical way. In formulating plans the success attained in the West is invariably cited as an example of what can be done. We must not lose sight of the fact that the lands

were rich and easily obtainable, and but for the rigorous climate with which they must contend, our task would be a mighty one indeed. There must be strong reasons prompting a change of base, not only with the homeseeker, but with the land-seller as well, if we are to judge by the many thousands of letters received from the farmer and the urgent appeals for connection with the land-owner from the latter. I have a single idea in viewing the situation from a successful standpoint, and that is, that the only effective means will be in the shape of colonization. I believe that a suitable tract of land should be selected, made obtainable for purchase by homeseekers by reasonable prices. This will establish communities, be more satisfactory, and will result in upbuilding more rapidly than through any other method. It is a mistake to place a family here and one there, causing separation and virtual isolation, and in the end dissatisfaction.

The South has never had a more promising future, and if our individual and combined efforts are confined to the proper channel it is not extravagant to say that wonders will be worked and the South brought to such a height of importance as to enable it to stand in favorable comparison to any other section of the world.

Many Lines Prosperously Affected by the Prices of Cotton.

J. F. Hanson, president Central of Georgia Railway Co., Macon, Ga.: I beg to say that the business outlook for the South in general, and for the cotton States particularly, is very promising. Depression in the lines of business in other States, for which supplies are drawn from the South, will affect corresponding trade here, and to this extent the volume of our business, but so far as our local business is concerned it should be good, for this cotton crop, including the amount realized from seed, will bring us from \$550,000,000 to \$600,000,000.

The present high prices of cotton and the impossibility of obtaining corresponding prices for cotton goods makes a serious situation for the cotton mills of the South. Every other branch of business in the South will be advantageously affected by the prices of cotton.

The gross earnings of our railroads for the first six months of the fiscal year will show increases over the same period of last year, but the increased cost of materials of every kind, as well as of labor, will doubtless affect net results with most of the roads at the end of the fiscal year.

Industrial Development Keeping Pace With Immigration.

M. Schuller, industrial agent of the Frisco system, St. Louis, Mo.: I have something to say regarding the situation on all parts of the lines of the Frisco system, in the South as well as in the Southwest, for this system should not only be considered a Southwestern road, but also a Southern line, with many interests in the South. We have constructed and put in operation during the year 1903 approximately 850 miles of new railroad, comprising six different lines, all of which traverse portions of the Southwest that were heretofore without transportation facilities. These recent lines pass through some of the most fertile, well-watered and productive sections of Indian Territory, Oklahoma and Texas, and have opened up to settlement the sections tributary to these lines. The industrial developments have kept pace with the wonderful immigration to the Southwest, and on all of these new lines numerous thrifty, growing towns have sprung into life. At each of these new towns industries, such as cotton gins, grain elevators, flour mills,

brick plants, etc., have been established, besides, of course, mercantile establishments of all kinds. Notwithstanding the large amount of attention that has been paid to the development of new towns, the older-settled places have not been neglected, and on all parts of the system an air of thrift is noticeable.

Many new industries are being located in the South and Southwest along our lines, and among them might be mentioned a large glass plant recently located in the Kansas gas belt. Owing to the failure in the supply of natural gas in the Ohio-Indiana gas field, the glass and iron manufacturers are casting their eyes in other directions in search of a good supply of gas, and this they feel they have located in the southeastern portion of Kansas, where a large proven oil and gas territory has been developed. This new gas territory undoubtedly has a great future before it, as new territory is continually being opened up in sections that had hitherto been supposed to be unproductive territory. I have seen it asserted by different gentlemen in the columns of this journal that the general condition of the industrial world at the present time is very prosperous, and I must heartily agree with them, at least so far as concerns those portions of the South and Southwest traversed by the Frisco system. Barring a shortage in the cotton crop in some sections, due to the ravages of the boll-weevil, there have been most excellent crops of all kinds, and, of course, it follows that the farmers have money to spend for not only the necessities of life, but also for the luxuries that only appear in the homes of farmers after very good crop seasons. So long as money is plentiful in the rural districts and times, as a consequence, are good, just so long will manufacturers be crowded with work, have excellent markets at good prices and general industrial conditions be favorable. Therefore, no matter how bearish Wall street may be regarding the condition of the country, yet the real prosperity of the United States continues excellent because of the first-class crop conditions.

In conclusion, will say that the industrial outlook in the Southwest and South is very bright and manufacturers in all lines are working full time. As the advantages of these sections as locations for factories are becoming more advertised among the manufacturers throughout the East, North and central West, many inquiries regarding the cities along our lines are daily being received, and in the Southwest seems to be widespread. I trust, however, enough has been said to give a slight idea of the industrial activity of the South and Southwest at the present time.

Better Understanding of the South Created by the Railways.

G. A. Park, general immigration and industrial agent Louisville & Nashville Railroad Co., Louisville, Ky.: The South of today is receiving greater attention and investigation by the homeseeker and manufacturer from points in the Northwest, North and East than ever before. The hundreds of letters received making comparisons of the climate by prospective well-to-do farmers who wish to leave the cold climate, and the monthly locations of many of these homeseekers, after personal investigation, is indicative of what is to be in the near future. The investors and speculators, who are not slow to perceive where the advantageous points are, are a further proof of the superiority and natural advantages of the Southland. The constant addition to the manufacturing and industrial centers will soon make the South equal to the most favored industrial locations of our country; the cost of living, the healthfulness

and a general belief that life is longer and conditions more favorable for the farmer, the laborer, mechanic and artisan than elsewhere. The better understanding of the South is no doubt brought about by the various railways depicting in a conservative, truthful manner the actual conditions which the homeseeker or investor finds on personal investigation to be conservative rather than overestimating.

The recent show of the International Live-Stock Association at Chicago, where the forage crops were on exhibition from quite near every Northwestern and Southwestern State, did not show better crops of corn, grasses, etc., than was in the exhibit made of forage crops from West Florida, Southern Alabama and that portion of the Gulf coast on the Louisville & Nashville Railroad. In fact, it was conceded by capable judges that the corn was better and contained more protein matter than elsewhere. Two or more of the Northwestern States had their agricultural-experiment departments represented by their professors and advanced students, who made the rounds, testing the corn. On arrival at the Gulf coast exhibit, and after examining, testing and making record, the Breeders' Gazette, Christmas edition, page 1083, gives the following colloquy between the professor and the attendant in charge:

"You have been breeding for high protein content," said a Northern agriculturist to Mr. Storrs, who was in charge of the Florida exhibit of forage resources, after examining a sample of Southern corn. "Not wilfully," was Mr. Storrs' reply. "Everything down South runs naturally to protein. All our indigenous products are nitrogenous. We have about ten times as many legumes as you have. The seed of cotton and pretty much everything else we have is highly nitrogenous, and I suppose partakes of the general predisposition. The farther north you go the greater the necessity for carbohydrates, and when you get up in Greenland train oil is very good provender, so you see it is simply a provision of nature after all. I understand some Northern seed-corn breeders are trying to breed more nitrogenous corn. If they will send down to Florida they can get a good start in that direction."

The above is not a fancy sketch, but literally true. Time, and that very shortly, will demonstrate that the South is by nature and by location the proper place for the great live-stock industries. The cattle and sheep here will find nature bountiful in forage, water and climate. It is predicted by many that with the live-stock industry centered, as it is destined to be, with large ranches and the best breeds, it will of necessity compel the erection of packing-houses.

An investigation is all that is necessary. These investigations are being made, with the result that a great majority are purchasing lands and improving them in modern manner with appliances that will add to the earning power of our land.

Southern Mississippi Typical of General Conditions.

J. H. Bouslog, industrial and immigration agent Gulf & Ship Island Railroad Co., Gulfport, Miss.: I beg to say that the field is so wide and that our particular field is so busy that I shall have to limit my reply to the country and conditions along the Gulf & Ship Island Railroad in South Mississippi. While this line of transportation has only been in operation a little over three years, the development achieved and the rapid strides of progress now in evidence all along the line from Jackson to Gulfport will compare most favorably with any like mileage of rail-

road in this country, and is little, if any, less than marvelous. In 1901 in this particular territory there were produced 15,000 bales of cotton; in 1902, 75,000 bales, and while the statistics for 1903 are not complete, it is safe to say 125,000 bales. This industry has made such rapid and substantial gains as to cause to be erected cottonseed-oil mills and fertilizer works along the line and outside of Jackson costing near a half-million dollars. The saw-mills in operation last year were ninety-four, with a capacity of 2,000,000 feet daily. This year some of the largest mills in the South have been added, so that there are now 114, with a daily cut of over 2,500,000 feet of lumber so fine in quality as to be sought by all manufacturers, and commands the best prices. Other kinds of manufacturing establishments, such as wagons, furniture, caskets, agricultural implements, box, cooperage and quite a number of fruit and vegetable canning factories are already located and being located.

At every single station may be seen new business houses or dwellings, schools or churches, and many of these towns have within the past year nearly doubled their populations, and are now establishing water-works, electric lights, improving their streets and in many ways have living conveniences far in advance of much older and larger towns in other States and sections.

While all these great quantities of lumber are denuding the forests, the management of the Gulf & Ship Island Railroad is succeeding in settling up and putting into cultivation the lands, as indicated by the increase of the growth of cotton. Not only this, but the soil and climatic advantages of this whole section are such that a score of truck and fruit growers' associations have been organized and are receiving the greatest encouragement from the railroads; so much so that there is now being delivered by the various nurseries over \$8000 worth of nursery stock, and two nurseries are now being located on the line.

While all of this is going on the lands are keeping pace in price and becoming more in demand as their values become known. Rapid as has been the march of events and achievements along this new line of transportation to the sea, Gulfport, the young Chicago of the South, and from whence has radiated all this stimulating enterprise, created and directed by the wisdom and capital of President J. L. Jones and his able corps of officials, has kept abreast of it all. A full description of the results obtained here would of itself transcend my space limitations, and without embellishments, but in every-day use we can show you the best deep-water harbor on the Gulf coast, perfectly protected by Cat, Ship and other islands just outside Mississippi sound. The deep water northwest of Ship Island light extends five miles in shore, from which point a seven-mile channel 310 feet wide and twenty-four feet deep has been dug through a blue clay to the railroad company's docks and piers at Gulfport. At the shore end of the channel is an anchorage basin of about 100 acres in extent, also twenty-four feet deep. This work cost very close to \$1,000,000, and more is already being expended to meet the pressing demands.

The anchorage basin is fully protected from storms from any direction, there being on the east side an open wharf 3000 feet long built as strong as Gibraltar. Railroad tracks are so laid that anything to load or unload is within the ship's tackle, always saving one handling.

In appreciation of this economy and facility some of the largest shippers have transferred their business to this port--

Reeves-Powell Company of New Orleans, La.; Hugo Forchheimer, New Orleans, La.; Hunter, Benn & Co. of Mobile, Ala.; H. Boon & Co. of Pensacola, Fla.; Louis M. Moragues of Mobile, Ala., and all the nearby shippers and producers. The United States has just appointed a deputy collector at Gulfport. A national bank with \$250,000 and a Bank of Commerce with \$100,000 capital both have new up-to-date buildings and every modern facility for business. In short, no section of the United States offers better inducement, for the employment of capital and industry in proportion to its area than does Mississippi, and especially is this true of the south half of the State, including this young giant city of the South.

New Industries of Many Kinds Are Projected.

Wilbur McCoy, agricultural and immigration agent Atlantic Coast Line Railroad Co., Jacksonville, Fla.: The outlook for industrial and immigration development in the South has never seemed brighter. Everywhere new industries of every kind are being projected, and, what is more to the future development of the South, the agricultural interests are growing brighter every day. I have been very busy for the past sixty days looking after not only inquirers for future homes in the different States, but a great many homeseekers are on the ground, as well as a large number of actual settlers who have located, purchased property and become a part of the State in which they have located.

We need a development of our agricultural resources as much or more than new industries, though both go hand in hand. With the continued development of our agricultural resources new industries are sure to follow. During the year 1903 we had more settlers than we had anticipated. One good settler well located will bring many others. The present prices of lands are all in favor of the immigrant. The fruit and trucking interests bid fair this coming season to go largely ahead of any previous one, and the outlook for the future is certainly very encouraging. While we are not attracting any large number of immigrants to this country from foreign countries, we are drawing largely from the great West and Northwest, where the price of lands no longer permit of raising corn and wheat profitably. These people are coming to us as skilled workers of the soil and with means enough to provide themselves with all the land necessary and to have comfortable homes in a land blessed with the climate that we have. Many from the far-off New England States as well as the Central States are disposing of their property and finding new homes in the Southland.

With the present outlook for the future we need the continued efforts of all interested in the development of the South, and while we expect a large increase in 1904, based on the present conditions, as our lands and climate of the South are better brought before those contemplating making a new home, time will certainly bring in large numbers of the most desirable people the South could ask for.

Progress of the South Cannot Be Halted.

Frank Y. Anderson, land commissioner Queen & Crescent Route, Birmingham, Ala.: The progressive momentum which the South has been undergoing for the past several years, cannot, in my opinion, be halted or suppressed, no matter what may happen in the North or the East. The mere fact that the people of the North are daily becoming acquainted with the splendid opportunities for investment in the South and are taking advantage of the same is sufficient to keep up the rapid

pace of advancement which this section is now undergoing.

With our magnificent coal fields and great deposits of iron ore and lime rock lying side by side, we are producing the cheapest pig-iron in this country, and it will not be long before we will control the general markets in this commodity. With our vast forests of pine, oak and other hardwoods, we are able to offer to the investor of the North in this line inducements sufficient to dazzle the most conservative. With our great stretches of agricultural lands, on which two crops can be raised each year and which can be purchased at possibly one-tenth the price paid for similar lands in the North, and with a climate so pure and wholesome as to restore the worn-out systems of those who come here to prolong their lives, it can be well understood why we are making such rapid progress. Never before have so many inquiries been received as are now coming from those expecting to move into this country, and if this is any indication the coming year will witness an unprecedented exodus from other sections into the South.

Satisfactory Condition From the Broad Viewpoint of the Gould System.

[Special Cor. Manufacturers' Record.]
Chicago, Ill., December 28.

I talked today with Mr. A. C. Bird, third vice-president and general manager of the Gould system of railroads. The design of the management, as popularly understood, in the appointment of Mr. Bird was to bring about a unification of interests of the various Gould roads. In accordance with that program Mr. Bird spends much of his time in his car going from place to place and keeping in touch with the conditions in the seventeen States and Territories of this country and the province in Canada through which the Gould system runs. Asked for an expression of opinion on the conditions in the Southwest today and the outlook for the future, Mr. Bird said to me: "Conditions are excellent. That covers the situation as well as if I were to talk an hour. The railroads are busy, and I don't believe any serious disturbance of present prosperous conditions is likely to occur. Crops are good, money is plentiful and the country is in a flourishing condition. While the boll-weevil has done considerable damage to the cotton crop of Texas, the price of cotton is so advanced that Texas will get as much money for its crop as at any previous time. Thus throughout the South and West there are equalizing factors present, with the result that conditions are excellent and the situation an entirely satisfactory one." ALBERT PHENIX.

Mississippi River Improvement.

Mr. R. H. Hunter of St. Louis, secretary of the Missouri Pacific immigration bureau, in a letter touching the distribution of the Manufacturers' Record's Levee and River Improvement Convention Supplement, writes:

"While we have given the importance of river improvement some slight attention and have taken a very great interest in the meeting held recently at New Orleans, it is with a feeling of considerable satisfaction, not unmingled with surprise, that we noted in your most excellent publication the fact that the meeting was attended by a far larger and more representative body of men than we had anticipated. The active work of men of their caliber and enterprise cannot be overestimated, and we wish to congratulate you on the very able manner in which this matter has been placed before your large list of subscribers."

SOUTHERN WHITES IN COTTON PRODUCTION.

By PRESIDENT J. C. HARDY of the Mississippi Agricultural and Mechanical College.

[Written for the Manufacturers' Record.]

In reply to yours of recent date, asking for an expression of my opinion as to whether the South can largely increase its cotton production, or whether there is danger of a permanent decrease in cotton production in the South due to certain causes, I will say that, in my judgment, the South has the capacity to still further diversify its agriculture and industries, to raise every bushel of corn, every pound of meat and every work animal needed in our section, and at the same time to more than double its cotton production. In my opinion, there is nothing in the contention that there has been a deterioration of the seed by reason of the best seed being sold to oil mills. No one believes more strongly than I do in the possibilities of plant-breeding and in the careful selection of the seed. I was raised on a cotton plantation in this State, and can testify to the fact that my father increased the yield of his cotton more than 25 per cent. by the careful selection of seed from year to year. I believe that the cotton production in the South under all the conditions that now exist could be increased 25 per cent. by a wise and careful selection of seed for a series of five years. Many of our farmers appreciate the importance of this class of work, and more of them are now selecting their seed than at any time in the history of Southern agriculture. This work is being emphasized more and more each year by our agricultural colleges, experiment stations and farmers' institutes, and a radical improvement is taking place and will be felt immediately in increased production. Were the contention true that our seed have deteriorated by reason of selling the best to the oil mills, this would not be a permanent danger, as it would require only a few years of careful selection to bring them back to the former standard.

That there has been a decline in the fertility of our soil by reason of bad cultivation under the tenantry system there can be no doubt. This decline is not of recent origin, but has been going on for years, even just as rapidly under the slave and one-crop system of agriculture as under the present tenantry system. I think all close observers of rural conditions in the South will agree with me that this decline is less rapid at this time than at any period since the war. In other words, a better system of agriculture is now being practiced in this section than at any time since the war. More peas, more vetch, more alfalfa, more melilotus, more clovers, more of everything that tends to improve the soil is now being planted than ever before. More fertilizers and better fertilizers are being used each year, and the indications are that the lowest point of the decline has been reached, and that from now on there will be a steady improvement. I have great confidence in the ability of the agricultural colleges and experiment stations to solve every problem that may arise in the field of agriculture, and in the capacity of the farmers' institutes to carry the solution out to the people and to induce them to apply the remedy. Whatever decline in the fertility of the soil that may have taken place, and it has been great, yet this has been met and more than compensated for by better methods in the last few years in preparation and cultivation.

The alarm that the decline in the fertility of our soil offers a permanent menace to cotton production in the South is useless and without foundation, as may be seen from statistics given in the Manufac-

turers' Record of December 10. These statistics show that beginning with the year 1871-72 the average yield per acre in the cotton belt the following ten years was 176.7 pounds of lint cotton; for the next ten years 168.8 pounds per acre, and that during the next ten years ending with 1900-1901 the average was 203.2 pounds per acre, an increase of nearly 20 per cent. during the past ten years. This negatives the contention that there is danger of a permanent decline in Southern cotton production.

While it is true that the industrial development of the South has driven many hands from the country to the cities and to the railroads and levees, yet there has been a compensation, to a certain extent, in the large numbers who have come in from the North and West to supply the places thus made vacant. Five different parties from Illinois have been in my office this week seeking information as to our lands and conditions with a view to casting their lots with us, believing that this section is upon the eve of the greatest prosperity in its history. There is hardly a county in our State that is not feeling the stimulating influence of this influx of population. These people almost without exception are delighted with the reception given them, and will induce still others to come. With the coming in of such citizens as this section is now receiving, and with the going out of many of our most trifling negroes, the productive power of our people will be greatly increased. One of the greatest losses the South has is the low productive capacity of her colored population. By improving the intelligence, industry and skill of her farm laborers the South can double her cotton production with every other condition remaining the same. To become convinced of this one has only to examine the statistics of the last census, which shows the following facts:

Lowndes county, with three negroes to one white man, having 21,972 blacks and 7121 whites, requires 3.15 acres to make a bale of cotton, while Jones county, with three whites to one negro, having 13,156 whites and 4670 blacks, requires 1.98 acres to make a bale. The farm lands of Jones county are valued, as found in the census report, at \$2.85 an acre, and the farm lands of Lowndes county are valued at \$9.38 an acre. Yet the poor lands of Jones county, under intelligent cultivation, produced nearly twice as much per acre as the rich lands of Lowndes county when cultivated mostly by negroes. Noxubee county, with more than five blacks to one white, having 26,146 blacks and 4699 whites, requires 3.50 acres to make a bale of cotton, while Union county, with three whites to one black, having 12,380 whites and 4142 blacks, requires only 2.56 acres to make a bale. The farm lands of Noxubee county are valued at \$7.12, and the lands of Union are valued at \$4.81. Hinds county, with three negroes to one white man, having 39,521 blacks and 13,037 whites, requires 2.50 acres to make a bale, while Perry county, with more than two whites to one negro, requires only 1.96 acres to make a bale. The farm lands of Hinds are valued at three times as much as are those of Perry. In the counties of Leflore, Bolivar and Washington, where they have about eight negroes to one white man, but almost without exception the negroes are under white managers, they make one bale to every acre and a-half, while in Lowndes, Noxubee and Monroe, where not many white man-

agers are employed, they make on an average about one bale to three acres. While this difference is partly caused by a difference in the fertility of the two groups of three counties, yet the principal reason is due to the superior intelligence used in the management of the first group. This is proven by the fact that in every comparison made between a white county and a black one the black was the most fertile, yet the white was nearly twice as productive.

I claim, therefore, by improving the character of our labor we can greatly increase the production of cotton in the South. Should conditions demand it, the South can greatly increase her cotton production by reducing her corn area and depending, as she formerly did, upon the North and West for corn, mules and hogs. This course should not be thought of except to meet certain conditions that might arise at some time in the far-distant future. It is interesting to note that this was one of the methods used by the South from 1850 to 1890 (except during the war period, when the markets of the world were closed) to increase her production of cotton. In 1850 the cotton area of the ten principal cotton-producing States was 6,764,030 acres, while the area devoted to corn was 14,877,806 acres. Beginning at this time, there was a decided tendency on the part of the Southern planters to increase the area in cotton at the sacrifice of that in corn until 1889, when the cotton area of these ten States exceeded that of corn by 1,145,567 acres. But under the intelligent leadership of the agricultural colleges and experiment stations during the next ten years, stimulating diversification, and the raising of more and better live-stock, the corn area was greatly increased until in 1889 it exceeded that of cotton in these ten States by 2,094,516 acres. Should circumstances demand it, this process can be reversed as it was in 1850.

The area of improved lands in the United States is increasing at a more rapid rate than the national population, even though the urban population is increasing more rapidly than that of the agricultural districts. The last census shows that had the area of improved land increased at no greater rate than the population it would have been 42,915,891 acres less than it actually is. This fact is due to use of improved agricultural machinery, by means of which one man in many instances is able to do the work of from five to twenty. The South has felt the influence and effects of this machinery less than any other section of the country. But under the teachings of the agricultural colleges, the experiment stations and the farmers' institutes this condition is being rapidly changed, and it is only a question now of a few years when the cotton farmers will be using as many improved agricultural implements as any class of farmers in the land. With a few more improvements that are sure to be made, the cotton-picker will be an entire success. Several pickers have been in operation this season, and our textile school has demonstrated that the cotton-mill machinery has no trouble in removing the extra trash gathered by the picker. The cotton-picking machine can run at night as well as in the daytime, which will enable the farmer to operate a double force of hands and save the great loss of cotton caused by bad weather. With the improved disc plows that are now being made, by which one man and team can break six acres a day; with the improved cultivators, by which one man can do the work of three, and with the cotton-picking machine a practical success, by which one man can pick six bales a day, there is no limit to our increase in the production

of cotton, even though our industrial development along other lines calls for a larger number of additional men who are now doing agricultural work.

The South can increase and will increase her cotton production not only by more intelligent selection of seed, not only by improving the fertility of her soil by every scientific and available method, not only by the improvement of the intelligence and skill of her laborers, not only by the use of more and more improved agricultural machinery, but by the opening up of new lands to give employment to thousands who are coming from other sections, as well as to our fast-increasing population. To realize the vast possibilities for expansion along this line one has only to examine the census report, that

shows that less than 50 per cent. of the farm lands of the South are improved. The report shows that in Mississippi only 41.6 per cent. of the farm land is improved; in North Carolina, only 36.6 per cent.; in South Carolina, only 41.3 per cent.; in Georgia, only 40.2 per cent.; in Alabama, only 41.8 per cent.; in Florida, only 34.6 per cent.; in Louisiana, only 42.2 per cent.; in Texas, only 15.6 per cent.; in Arkansas, only 41.8 per cent., and in Tennessee, only 50.4 per cent. By opening up this undeveloped territory, almost every acre of which is good cotton land, the South's ability to indefinitely expand her cotton production cannot be questioned, and therefore the alarm about a sufficient cotton supply in the future should be permanently dismissed.

VITAL FACTORS IN COTTON PRODUCTION.—III.

More letters from widely-separated sources continuing the discussion of questions bearing upon the South's position as a cotton-grower are published in the following columns of the Manufacturers' Record. They come from bankers, merchants, managers of oil mills, managers of cotton mills, growers and others, and reveal a wonderful interest in the discussion and a variety of opinion influenced by differing experiences. Every letter will be read with interest as a valuable aid toward the cultivation of a public sentiment in the country likely to hasten the conditions for the maintenance of the South's superiority as to the staple.

BANKERS, BROKERS AND OTHERS.

Variety of Influences Involved in the Momentous Problem, According to Their Information.

Chas. G. Henry, cashier Arkansas Bank & Trust Co., Newport, Ark.: We can only speak from experience in our own locality in regard to cotton crops. Good land in this territory still produces a bale to the acre, so we are of the opinion that seed has not deteriorated.

We have some very old farms here that are still producing good crops; in fact, I do not know of a single pound of fertilizer as having been sold in this country. There is no question but that land would produce more if it was cultivated by deeper plowing, etc. Conditions in this respect are getting better, and instead of a decrease in products on account of the fertility of the soil, it will be an increase.

There has been a scarcity of labor all through this territory for the past three or four years, and a great many people here date the scarcity from the season when cotton went to three and four cents, which drove labor from the cotton fields into the mills and cities. The scarcity of labor will force farmers to put more of their own time in the field, and may lengthen the time of getting out the crop, but do not think that the scarcity will interfere with a gradual increase in cotton production.

It is my opinion that with the present facilities the South could raise and market 15,000,000 bales, provided prices were an inducement for the farmer to pick out the last of their crops.

Looks for an Increased Acreage Next Year.

Charles Baughman, Ladonia, Texas: In response to your inquiry concerning the production of cotton in this part of the country will say:

First.—Owing to the extremely high prices being paid for the lint here leads us to believe that the acreage will be greatly increased instead of being decreased the coming year. Another fact causes us to believe that the acreage will be increased another season, and that is that the farmers are having a great many seed shipped in from the old States, which mature much earlier than the native seed of this country. We do not look for any decrease in the acreage of cotton, since the present price will make a pretty picture of the future. However, we expect to see the yield greatly decreased unless there is something done toward the de-

struction of the worm and weevil that have given so much trouble the last season.

Regardless of the worm and weevil, the yield per acre has in the last five years decreased at least one-third, and this fact is attributed to the seed that are planted. These seed have been carried for many years from the original, and as a result they have been mixed so much that the stock, as you might term it, has just about run out, leaving the bulk of seed as small, hard and of little good quality in them.

The landlords of this and other sections of the country do not restrict their tenants from planting cotton, but rather force them to plant it in larger quantities than any other commodity.

As a general rule the farmers carry their first picking of cotton, or rather the seed from the first picking, home for their planting seed another year. I do not think that the oil mills get the best seed by any means, because as a rule the oil-mill people try to get the farmers to put away their first picking's seed to plant.

Certainly No Danger of a Permanent Decrease in Cotton Production.

Col. Hiram Hawkins, Hawkinsville, Ala.: Having carefully considered the questions presented, I have no hesitancy in expressing the opinion that there is certainly no danger of a permanent decrease in the cotton production in the South, notwithstanding the fact there is a marked decrease in the productivity of the soil where continuously cultivated—not, however, for the loss of any vitality of the seed planted, but by reason of the fact that so many of the seed are sold to the cotton-oil mills and no equivalent return to the land as a fertilizer, as well as by reason of bad cultivation under the tenantry system, and the further fact that the industrial development of the South has drawn many hands from the cotton fields to the railroads, mining, manufacturing and other industries to obtain better wages.

When cotton commands less than ten cents in the home market all other industries can pay from 50 to 100 per cent. more for labor than the cotton-grower. It is a remarkable fact that while the fabulous wealth with which the production of cotton blesses this great country and all the world, the laborers of the South who

create it are less paid than any class of laborers in any of the industries of the country. It is clearly evident, therefore, that cotton and cotton goods have not advanced, until recently, on a parity with the other industries of the country. Yet with all these facts duly considered, it is manifestly evident to all who are familiar with the cotton industry and the productive resources of the South that the South can easily produce all the cotton that the world will consume at remunerative prices.

If the farmers of the South could be convinced that they would realize present prices for the next cotton crop, all of 12,000,000 bales would be produced. During the days of the reconstruction period the government, it will be remembered, placed a tax of three cents a pound on cotton. Sometimes the farmers have hopes that this tax money will in some way at some time be refunded to the people or to the States from which it was taken. It occurs to me that now would be the opportune time by granting a premium of three cents a pound on all cotton grown in the next three years, or a sum that would equal the tax collected and interest. This would be but an act of justice, and perhaps no better or more equitable way could be devised to build up this great industry, and at the same time all classes would be benefited, some of whom yet feel the hardship of what was deemed a great injustice. The government and all the people would be greatly benefited and blessed by the increased millions exported and the increased inflow of gold as a result. This kindly action by the government would solve the cotton problem and would give the world the 12,000,000, 14,000,000, 15,000,000 bales of cotton suggested for the world's growing consumption. The claim that there can be no large increase in cotton production in the South without a material gain in population is mere idle speculation. White laborers from Europe are not needed for the cotton fields, and would not go there if here and wanted at the wages the cotton-grower could pay. What the South needs is more men with means and brains to develop and diversify our rich and varied agricultural resources and other industries.

For the past thirty-two years, from 1871, there has been a gradual increase in acreage planted to cotton and a gradual increased production. Statistics show that the acreage planted in 1892-93 was three to one more than cultivated in 1871-72, and the yield three and one-half times greater (forty pounds more per acre), but it is stated that single years are not a fair test. Let us then take eight-year periods as preferable to a smaller number, average yield per acre from—

	Net pounds.
1871-72 to 1878-79.....	171
1879-80 to 1886-87.....	171½
1887-88 to 1894-95.....	187
1895-96 to 1902-1903.....	202½

Each period showing increased yield per acre. The last two years, 1901-1902 and 1902-1903, falling off to 188 pounds per acre, has caused much comment, some claiming that this decline in yield per acre is evidence of marvelous deterioration of the soil, as well as of the seed that grew it, overlooking the important fact that the yield per acre of these two years is eleven pounds per acre more than the average per acre of all the years from 1871-72 to 1894-95, inclusive. This result of growth and yield per acre under adverse conditions shows that there has in fact been no decline in the yield per acre; that the unprecedented yields for the four years previous were abnormal and undisturbed by any of the disasters during the years following giving less growth.

It is clearly evident to my mind that the variation of the seasons and the use of more fertilizers some seasons than others, and last but not least, the havoc some seasons caused by the caterpillar, the boll-worm and the boll-weevil, is the cause of the difference in yields per acre.

Revolution Caused by the Boll-Weevil.

N. L. Willett, Augusta, Ga.: In answering your questions concerning decrease and causes of same in cotton production in the South, let me say:

First.—There is no deterioration of seed—"best seed being sold to oil mills." The types of cotton and seeds thereof in the South are far better and more prolific than ten years ago.

Second.—I should say there is no decline in fertility. Our lands, I believe, are getting year by year into a better shape.

Third.—This permanent decrease—and a decrease I believe there will be—has three causes. First, there is a growing scarcity of farm labor. The rural negro comes more and more to the city, or he works in some rural industrial development on day wages; and, too, there is no small amount of emigration of the negro northward. Second, and added to this, must be the Mexican boll-weevil, which seriously menaces the total cotton industry of the South. This district in Texas now is as large as the State of Georgia. No earthly help seems possible today to avert its ultimately overrunning the whole South and causing, as it has caused in Texas, a total revolution in our agriculture. We must not forget, too, thirdly, the large areas recently diverted in the South to peach culture, cane, rice and to grasses.

While not related to the above, let me add that the cotton planter who plants our earliest cotton, known as "Kings," this next season, which he can get to market in August and in the early September, is assured, in my opinion, of getting at least thirteen to fifteen cents per pound for his cotton. This is the indication of the future market at present.

Farmers Did Their Part—Seasons Were Against Them.

D. K. Norris, Catechee, Pickens county, South Carolina: It was not deteriorated seed, decline of fertility or labor which caused the small crop of cotton being marketed.

Last winter was unusually wet. The rains commenced in the fall and continued throughout the winter and into the spring months. No plowing or other preparation was possible before the middle of April, when the crop should have been planted. Commencing to prepare to plant when planting should have been finished meant hurry, ill-preparation and speculation on the future weather conditions to make good what was only half-done at that important time. Subsequent seasons were unpropitious. The crop came up badly, and during the growing and fruiting season passed through unfavorable vicissitudes, bringing it up to a killing frost three weeks earlier than it should have been by reason of its (crop) general backwardness. With normal conditions the crop of 1903-1904 would have been 11,500,000 bales. The farmers did their part. The seasons were against them.

Oil Mills Not Getting the Best Seed.

George R. Brown, secretary Little Rock Board of Trade, Little Rock, Ark.: I do not think there is any decrease or danger of it. Oil mills are getting the best of the seed. There is no decline in the fertility of our soil, and the increase of immigration, both white and colored, keeps the labor market pretty well supplied. The crop is at least an average one.

FROM THE OIL MILLS.

Men Who Buy Seed Discuss the Question of Deterioration, and Find Diverse Explanations of Recent Manifestations.

A. C. Phelps, district manager the Southern Cotton Oil Co., Columbia District, Columbia, S. C.: Answering your first inquiry, I would state most positively that the deterioration in the crop is not due to the best seed being sold to the oil mills; on the contrary, the poor seed are sold to the oil mills, the planters unquestionably selecting their best seed for planting purposes.

The decline is not due to exhaustion of the soil by reason of poor cultivation. It is a fact that more fertilizers are being used each season. The decline in the cotton crop in this section is due entirely to climatic conditions.

Lack of farm labor.—There has been some trouble along this line, but certainly not to any great extent. I believe that with improved methods of farming the South is in a position, with an average season, to make a much larger crop than they have yet produced.

Labor Is the Most Serious Phase of the Problem.

C. E. Foy, manager fertilizer department New Berne Cotton Oil and Fertilizer Mills, New Berne, N. C.: We think the most serious problem on the cotton production subject is the labor question. It would not matter hardly how much cotton was grown, and if we had the most favorable seasons and under the most favorable circumstances, we could not gather but so much, and we think a crop of 12,000,000 bales would be as much as the South could possibly handle under most favorable conditions. The Southern farmer has learned by sad experience of 1896, 1897 and 1898 that it pays to provide for home food products, and it matters not how high the price of cotton may go, it will be his intention in the main to provide home supplies on the farm. We do not believe there is anything in the question of deterioration of seed by reason of the best seed being sold to the oil mills, because, in fact, this is not the case. The prudent farmer saves his best seed for planting, and generally a double supply. We know by actual experience this is the case in this section, and if there is any "cast-off" seed the oil mills get them. We do not mean by this that the oil mills do not get a large quantity of very good seed, but these seed the farmers can easily spare, and it is greatly to their advantage to do so.

To question No. 2, as to decline in the fertility of the soil by reason of bad cultivation under the tenantry system, we beg to say that in many cases there is something in this, but as a general thing, under the high system of cultivation which some of the more intelligent farmers are working, and the large use of commercial fertilizers, with home compost and manures, the lands are actually improving, and will produce much more to the acre than they did in 1861, or even at periods since the close of the Civil War.

The manufacturers ought not to grumble at the price of cotton. The Southern farmer ought to get at least ten cents per pound to make this crop really interesting and profitable. He has had a hard struggle to hold his property, and to even support his family in many cases in the most humble way, and it is high time that some reward was coming for his labor.

Late Season Responsible for the Present Small Crop.

William D. Roberts, general manager Richmond Cotton Oil Co., Memphis, Tenn.: In regard to the cotton production of the South I beg to say, first, that I do not think there is anything in the theory of deterioration of seed on account of

early seed being sold or used up by the oil mills; nor do I think there is any particular decline in the fertility of the soil.

There is something, however, in the lack of farm labor and higher prices of same, owing to industrial development in the South drawing the hands to the saw-mills and railroads and various other industrial enterprises offering more wages than farmers can afford to pay. Wages for laborers have advanced from 50 per cent. to 100 per cent. within the last twelve months for the reason mentioned above.

The cause of the present short crop, however, lies in the fact that the crop was some thirty days late this season, owing to the late planting, on account of the backward spring, and the further delay of the growth of the plant after it was planted, on account of the unusually cold weather which existed in the month of June, when the plant should have been growing, and lastly, to the early date of killing frosts and a further fact that the ravages of the boll-weevil, while being disastrous last season, was much more so this season.

Under all the circumstances, we do not see how the present crop can exceed 10,000,000 bales. As to the future growth of cotton, would say that with favorable climatic and labor conditions it is possible for the South to produce a crop of 12,000,000 bales. However, the figure that the boll-weevil will cut another season no man can tell; besides, the fact that consumption is increasing every year, and all things considered, in our judgment present prices will be maintained for some time to come; in fact, we look for very much higher prices before another crop is made.

Boll-Weevil in Texas and the Territories.

J. F. Gilmore, general manager Athens Cotton Oil Co., Athens, Texas: We are not familiar enough with the southeastern cotton States to give you anything like a correct answer to your questions. In regard to Texas and the Territories, we think we are safe in stating that Texas and the Territories for several years will yield less cotton each year. The main reason is the boll-weevil.

Part Played by Many Insects.

J. J. Flowellen, manager Longview Cotton Oil Co., Longview, Texas: The decline in production has been somewhat due to poor cultivation, but chiefly to unseen insect enemies, drought and late planting. The insects referred to are the bollworm, boll-weevil, sharpshooters and army worm, all of which took a part in our crop conditions this year.

Deterioration Due to Prices That Have Prevailed.

A. D. Allen, manager Little Rock Mill, Consumers' Cotton Oil Co., Little Rock, Ark.: My opinion is that the decrease in cotton production in the South is attributable more to the prices that have, with slight exception, ruled for cotton during the past ten years than to any other cause.

The farmer cannot thrive on sassafras roots and blackberries, as he was almost forced to do during a series of years in the recent past, when cotton ranged in price from four and a-half to six cents. These prices drove him out of cotton and to penury. He was forced to seek employment elsewhere, and the rapid industrial movements in the South afforded opportunity, consequently there has been a great falling off in farm labor. But with the assurance of ten-cent, or even nine-cent, cotton there will be no famine crop.

It is not a question of deterioration in seed quality. The farmers, as a rule, reserve their best seed for planting, and, while much of the lands are comparatively exhausted, new farms are opening up every year, and there is sufficient undeveloped territory to supply the world.

Only Good Luck May Enable the Planter to Make a Good Crop.

J. A. Austin, Jr., secretary and treasurer De Soto Oil Co., Memphis, Tenn.: Answering your queries in the order that you make them, we beg to advise that it is not our information that the crop is in danger of being decreased on account of deterioration of seed. We feel that the cotton crop is in great danger of each year being smaller than it otherwise would be on account of the decline in the fertility of the soil, and more specially on account of short and indifferent labor. The labor question is a most serious problem in the South, and we feel unless radical changes and methods are adopted that it will only be good luck that will enable the industrious planter to make a profitable crop, outside of climatic and speculative conditions.

Climatic Conditions Mainly Caused Short Crop.

T. L. Smith, secretary and general manager Epes Cotton Oil Co., Epes, Ala.:

I do not consider short crop caused on account of any deterioration in the quality of seed.

I do not consider it on account of decline of the fertility of soil and less of bad cultivation.

I think that labor is leaving the cotton belt and engaging in other industrial developments that have recently sprung up throughout the South to a certain extent. I think the main reason for the short crop is that the climatic conditions have been such that the plant has not done well. The cotton plant will not produce a full crop unless the seasons which are particularly adapted to its growth run about the same each year. During the period of large crops we had very warm springs and late dry falls, and during short crops we have had just the contrary.

Seed Not Fully Matured Reserved for Planting.

M. D. Shelby, manager Morrilton Cotton Oil Co., Morrilton, Ark.: There are several causes in this section that force me to the conclusion that the cotton production of this section is on the decline.

First.—That many of the farmers and tenants sell their seed from the first and second picking to the mills, which are usually the best matured, and reserve seed from last picking for planting, which are not as fully matured, which naturally weakens the plant.

Second.—There is danger of deterioration from the lack of proper cultivation, due, in some instances, to the utter worthlessness of the tenants, and mostly for the lack of laborers. The towns and cities have for years been gradually drawing the labor from the farms.

Third.—The greatest detriment to this section this year has been the climatic influence, the season not being at all adapted to the cultivation of cotton.

Labor Will Return if Inducements Are Offered.

N. W. L. Brown, the Thomasville Mill & Storage Co., Cotton Oil Mill, Thomasville, Ala., and Camden Oil Mill, Camden, Ark.: I and my brother have interests in the eastern part of this State, besides those here and at Camden, Ark. I have them all in charge, and ought to be in position to know a little about the cotton situation. This idea that the South has passed the limit of possible production in cotton may be a very good bomb for the

"bulls" to throw into the midst of a stam-ped bunch of spinners, but further than this it can hardly amount to much. Certainly it must be a ridiculous proposition to anyone familiar with the wilderness section of the cotton belt that all the ground has been covered. It would seem that this nightmare started in Liverpool, and has spread extensively. I am not given to writing articles for the press, but if the people off at a distance are really serious about this matter, I would be willing to venture a few observations upon this matter.

The labor situation among us has been serious, and is so still, but with the depression in the mineral district of the

State and the boom in cotton this will naturally adjust itself with wonderful quickness. The boll-weevil may eat us all up bodily, but there is no need of all the country getting completely rattled over this Texas pest yet. I can refer you in detail to sections in the very midst of the best cotton section where cotton lands can be had for not exceeding \$5 an acre in select tracts of thousands of acres. To be definite about this matter, I may state that we own two large plantations of this kind. The trouble with us is that our labor has migrated to Birmingham and left the cotton fields to sedge and the bats and owls. It will return if the inducement is offered.

POSITION OF THE COTTON MILLS.

Comprehensive Summary of Conditions by the Manufacturers, Who Believe Potentialities Have Not Been Exhausted.

Aug. W. Smith, president and treasurer of the Woodruff Cotton Mills, Woodruff, S. C.: I do not think there is any permanent decrease in the cotton production in the South. I cannot see where there is any deterioration of seed by reason of the best seed being sold to oil mills. The planters in most cases keep their best seed for planting, and sell all of the surplus. I think if the planters would try and improve their lands, and with the proper season, the lands will produce more than they ever did. The whole trouble for the last three years has been the climatic condition east of the Mississippi. Of course, in Texas they have had the boll-weevil, as well as the climatic condition, to contend with. The condition that I think the greatest trouble is the lack of labor, but there is plenty of labor to make a much larger crop than was made this year, as the picking is over now, which is very early, and the labor could gather at least one-quarter more than they have done this year. I think next year there will be a surplus of labor on the farms, for there will be very little building of new enterprises, and the labor that was drawn from the farms will have to go back to make their living. Last season was a very trying one on the cotton plant, it being cold through the spring, and just as the plant was in vigorous growth we had the hottest drought we had for several years, and then the early frost cut off the late bolls, which would have made a great deal more if they had matured. So far as I can see, if the climatic condition is all right for cotton we could make a great deal larger crop with the present labor.

Proper Fertilization and Cultivation Needed.

John W. Tullis, president Eufaula Cotton Mills, Eufaula, Ala.: To question No. 1 we say, while no doubt it would be better did the planters select the seed more carefully, it is not the great cause of small crops.

To question No. 2, we think this question is the main one, for we believe that if the last two short crops had been properly fertilized and properly cultivated 1,000,000 bales more would have been added to each crop.

To question No. 3 we say, while there is less labor than formerly, if the present labor would work highly-fertilized land, and work it well, they would produce all the cotton needed at, say, seven or eight cents per pound. The tenantry system is the real evil, because the owners of the land and the merchants are afraid to furnish a proper amount of fertilizers to make a big crop, because they do not believe the labor will properly cultivate and gather it under the present system. If the South were settled up as thickly as the Middle States, and with the same class of farmers, we could raise profitably every year 13,000,000 or more of cotton.

The result would be that such farmers would first raise everything the land would produce that they needed to live on, then cotton would be raised to the extent they could, simply as a money crop, and it would pay at any price, even as low as five cents. This price looks rather low when now they are getting twelve cents, but if you will put the farmers here of the class I mention you would see all the cotton, and good cotton, well handled, raised at a profit not more than half present prices. But that would require such changes that neither you or I will live to see it.

Increase in the Farming Population Absolutely Essential.

Philip St. George Coker, Laurel Cotton Mills, Laurel, Miss.: I am inclined to think that the intelligent planters of the South have, during the past ten or twelve years, endeavored to maintain the quality of their seed by frequent renewals and by saving the best seed for planting. Having been connected with planting in Mississippi for several years, I can speak with some knowledge regarding the larger planters. Regarding the small ones and two-horse planters and negroes, it is entirely possible that there has been no effort made to keep separate the good seed from the bad, and the result may easily be a reduced outturn per acre.

I do not think there is any decreased fertility of the soil that is responsible for the decreased yield of cotton, and would call your attention to the results obtained for the two years of 1896 and 1897 and 1898 and 1899. In 1896 we had a crop of 8,750,000, followed by one of over 11,250,000, and in 1898 we had a crop whose growth was easily 12,000,000, followed by one whose growth was about 9,000,000. These results would seem to indicate beyond a doubt that we must look for some other cause responsible for such enormous differences in results. I think this cause must be sought in the nature of the plant and of the seasons. The cotton plant is peculiarly susceptible to sharp extremes of weather, and while it may be that seed deterioration has injured the vitality of the plant to an extent that renders it more difficult to withstand these extremes, the fact remains that an apparently strong and vigorous plant on good soil suffers disastrous loss of fruit under such conditions. Given a well-worked crop, and let it have two weeks of wet weather, followed by intense heat (such as we often see) for a week or ten days, and immediately it sheds the greater part of the small bolls and practically all of the squares and forms. The reverse is equally true; a plant growing and fruiting abundantly during a season of very dry weather will, if subjected to hard rains for a few days, shed in precisely the same manner. I have seen so many magnificent prospects ruined in ten days under such conditions that it is im-

possible to believe that soil conditions are responsible.

Regarding the labor supply, it is unquestionably a fact that this is a serious factor in the problem of increasing the crops. A great number of negroes are being drawn from the plantations for all sorts of industrial work—railroads and improvement work in small towns—and also owing to the fact that the negro, so soon as he has a little ahead, does not so much care to work on a plantation when discipline is maintained—he wants to get off where there is no white man to see that he works.

The labor is still sufficient to work a crop which would produce 12,000,000 or 13,000,000 bales, but picking such a crop, except during almost ideal weather during the fall and winter, would be quite another matter. There is an almost unlimited field for the increase of the cotton crop, but before this can be commenced it is essentially necessary that the cotton-producing population of the South be recruited from the outside, and immigration is the one remedy. People must be brought in and the lands opened up and developed by small farmers before there can be any permanent increase.

To conclude, I feel sure that under favorable weather conditions we can still make good crops, as judged by the standards of the past, but a steady and permanent increase, such as is demanded by the rapidly increasing needs of the world, is absolutely dependent upon an increased farming population in the South.

The Soil Robbed Under the Tenantry System.

T. W. Pratt, first vice-president Southern Textile Co., New York: I think the deterioration of the seed has been one of the greatest causes of the small yield in many districts. The oil mills, of course, are looking for the fat seeds, and the ordinary Southern negro planter thinks a seed is a seed, and the result is that he holds just enough of last year's crop to plant for another season, or trusts to the local oil-mill men to furnish him with seed in the spring. The result is that they get the seed that matures the latest, and, consequently, the poorest and leanest seed of the season.

Of course, the greatest cause of the decline in yield per acre is the fact that the soil of the South has been robbed year after year under the tenantry system and taking a crop of cotton off of many farms year after year for the past fifty years, and in some places I know where there has been a crop raised on the same land for seventy-five years without putting anything back in the shape of fertilizer.

I do not think that lack of farm labor has been the cause of very much reducing the acreage, although each year the industrial development in the South has drawn away more or less from the farm. In my opinion the South, with the labor it now has and what can be had at prices anywhere around ten cents, is capable of producing at least double the amount of cotton that has been produced.

From your personal observation I am sure you will agree with me that there is not one acre in ten which could be cultivated in cotton that is so cultivated. My candid opinion is that, should cotton remain around ten cents per pound, the acreage will be increased at least 25 per cent. this coming year, and with the use of fertilizers, the consumption of which is yearly increasing, I feel sure we will never see a cotton famine.

No Difficulty With Plenty of Labor and Good Seasons.

L. H. Hines, president the Tupelo Cotton Mills, Tupelo, Miss.: We think the most trouble in regard to increasing cotton production is the labor question, to-

gether with weather conditions and seasons, which seem to get worse every year. With plenty of labor and good seasons we ought and could raise 14,000,000-bale crops. However, I don't think we will be able to do this for several years to come.

WHIP-HAND IN COTTON.

Transferred From Liverpool Buyers to Southern Growers.

In his review of the financial situation, Daniel F. Kellogg, writing in the New York Sun of the part played by wheat, coffee and cotton, says:

"The movement in cotton is, of course, of far greater importance to the business life of the country at present than either of the foregoing. In its immediate phase the movement is harmful. Starting from a high level, fixed by the operation of legitimate supply and demand conditions, the price of cotton has been advanced by riotous speculation to figures which, in the opinion of most people who have studied the matter dispassionately, manifestly outruns the value of the commodity. The basis on which this judgment is formed is not that the cotton crop is larger than the government estimates make out—although current receipts distinctly point to this—but that fourteen cents a pound for raw cotton is more than the world can afford to pay. Speculation in cotton has not been, as many people suppose, a mere matter of manipulation in the New York market. It has been supported by the steady strength of the spot article throughout the South, this, in turn, being caused by the craze to buy cotton that has seized upon the Southern people as at no time since the Civil War. The movement has now reached a point where the entire mercantile trade is upset and where the evil effects of its collapse are something for the stock market to consider seriously.

"What has been going on in cotton, however, is but another illustration added to instances of the same sort that have not been infrequent lately—of that law of compensation which applies as rigidly to stock and commodity markets as to any other branch of human affairs. For years spinners or their agents have had the whip-hand of the Southern cotton planters and have been enabled to keep cotton prices exceedingly low. For years Liverpool buyers made practically what price for cotton they wished, time and again frustrating the efforts of Southern planters to secure a fair return for their toil. Now the dread balance of Nature is turned against them, and their undue gains in times past are pitilessly wrested from them. There is this thought, too, that is uppermost in the minds of all those who look at the matter from end to end—that it is highly improbable that for years to come American cotton will sell at what may be called low figures, that is to say, prices that will not make the industry a very profitable one for American producers. There are those who hold that the high current prices will develop cotton-raising on a large scale in other countries, so that our planters will find their market taken from them. But nowhere else in the world can cotton be produced as cheaply as here. Efforts to stimulate growth of the article elsewhere in competition with our own product have long been unprofitable. More than twenty-five years ago the late Mr. Addison Cammack started a great campaign against Southern securities on the ground that the high prices for cotton then prevailing would so encourage the production of the staple in Egypt and other foreign countries that the price of the American article would sink out of sight. But Mr. Cammack was wrong. Views such as he then enter-

tained have been advocated a hundred times in the history of the cotton trade and they have always proved fallacious. No less than the expectation, now daily fortified, that never again will our Western farmers be compelled to sell wheat for fifty cents a bushel is the dawning confidence that five-cent cotton in the South has gone, never to return."

INVESTMENTS IN MILLS.

Wise and Timely Comments Upon a Recent Experience.

There is no better investment in the South today than in our cotton mills, and because one was badly operated by a man who was not a manufacturer is no reason why the business world should believe that it is not wise or safe to buy or hold these securities. In late years, while other stocks have been hammered down by reason of the water in them, mill securities have not declined, and every plant represented more than the original capital. The earnings have been put into the properties to improve them, to give them greater scope, to increase the output, and today they stand dollar for dollar and more. Witness the record of Pacolet and Clifton and kindred organizations which were wrecked by storms, but which have outlived the disaster less than six months after it occurred. We have superior advantages in the South for turning the raw product into the finished goods. We have cheap labor, free from interference and removed from the labor agitator, and we have men of brains and integrity and experience who are proving from day to day that they can continue to run their factories while spinners in New England are failing. They are honest, energetic and capable, holding always the confidence of operative and stockholder alike, and no man can ever say that he put money into their keeping without receiving great financial benefit in return. Those persons who live here, who understand conditions, who know that these properties have strength, and who know that they will still grow and prosper, are not the kind to look elsewhere for investment. Men with sober business sense and judgment will not do that. They are not timid because of any bad management in Columbia, for they have brains and intelligence enough to understand that what was done by the Olympia people is not countenanced or copied by the leaders of our industrial life. At the same time, however, there is just a bare possibility that foreign investors may be frightened and alarmed, and that being the case, it is our duty to disabuse the public mind of any such erroneous view.

Without the cotton mills the South would never have made such wonderful advancement, and the rapid development of this section is due to their existence. Our business salvation depends upon them. We can feel that here at our door, and all of us can readily appreciate what it would mean to lose them. The results achieved by Southern manufacturers have won the admiration of the country. Their work is known in all parts of the world, and all of us who have the best interest of this great industry at heart should correct the false claims which might be advanced by our business rivals that they stand for the same principles, the same policy and the same bad judgment which brought three mills in one city to the verge of ruin. The real Southern mills are not conducted after that fashion, and it is for that reason that they offer the best and safest investments for those of us who expect and will receive big dividends on our stock.—Greenville (S. C.) News.

GROWTH OF WAYCROSS.

Result of the Establishment of Industrial Enterprises.

[Special Cor. Manufacturers' Record.]

Waycross, Ga., December 26.

This little South Georgia city furnishes an interesting illustration of the industrial development that is going on in the South. Twelve months ago Waycross was a town of about 6000 people, located in the center of "Wiregrass" or South Georgia, and was nothing more than a railroad and trading point in a prosperous agricultural section. Within the past year it has added nearly 50 per cent. to its population and built and put into operation a number of successful manufacturing enterprises, and will commence the year of 1904 as one of the important smaller manufacturing cities of the Southeast.

About one year ago the South Atlantic Car Manufacturing Co. of Waycross, with a paid-in capital of \$100,000, was organized and the plant put into operation a few weeks later. The directors of this company have just met and declared a quarterly dividend for the fourth quarter of operation of 4 per cent., and in addition placed a substantial sum to the credit of surplus. During its first year the company spent considerable money in valuable equipment, patterns, etc., and if it does as well next year as it has this it will be able to pay more than a 4 per cent. quarterly dividend. The stock of the company has increased in value within the year from \$100 to \$125 per share. The company now has orders enough ahead to keep it busy for several months.

During the past year Hon. W. G. Brantley, congressman from the eleventh Georgia district, secured an appropriation of \$20,000 to establish an experiment station for making syrup of uniform grade and class out of Georgia sugar-cane at Waycross. The plant was erected and is just finishing its first season's operation. In addition to the government appropriation, considerable local capital has been used in the operation of the plant. The work of this important government enterprise, the only one of its kind in existence, has been very satisfactory, and will do a great deal to develop sugar-cane culture in the Southeast. Mr. Brantley expects to get an additional appropriation of \$25,000 for the plant from the present Congress.

A \$25,000 plant for the manufacture of creosote, turpentine and kindred products from the pine stumps of Georgia has about been completed at Waycross and will be put in operation on January 1.

A woodworking plant has been organized for Waycross, with a paid-in capital of \$10,000, and the machinery for it is now en route. During the year now ending the Cannon Pump Co. has erected a large plant at Waycross for the manufacture of pumps of all kinds, and reports that it cannot fill its orders on account of inability to get castings and material in the market. Other less important enterprises have been established and enlarged.

This is the record of one Georgia agricultural town in a year in the establishment of manufactories, and is indeed a creditable one. Every dollar of the capital invested in the enterprises enumerated is Waycross money with the exception of the \$20,000 government appropriation for the syrup refinery. The people of Waycross are enterprising and prosperous, and fully appreciating the value and importance of using their surplus capital in the establishment of enterprises for the manufacture of such of their raw material as there is a profitable market demand for, have almost revolutionized their little city in one year. The city has a splendid Board of Trade and live newspapers, and

to these its industrial progress is largely due.

I find in my travels through the South that the same spirit of industrial progress that Waycross has demonstrated obtains to a greater or less extent all over the country. In whatever part of the South one may visit they will find new factories being established and old ones being enlarged and improved. The most encouraging feature of the present industrial activity of the South is that the investments are nearly all local capital. The South is wisely using the surplus money that it has accumulated from the past few years of good crops and good prices in the establishment of manufactories and in the purchase of new and improved machinery for the old ones. Where Southern factories are being enlarged to a great extent the money used is the accumulated profits of their owners, and the increase of product is being provided for in response to a greater demand for their goods from a permanent market and an established trade. This being true, the money conditions and market fluctuations of the East, however unsettled and unfavorable, can have no material effect on the industrial situation in the South. The only thing that could possibly interfere with the prosperity and progress of the South would be a failure of the standard farm products or an unusual decline in their market value, and this is in no way to be feared from the present outlook.

The building and enlarging of Southern factories means the building of more railroad trackage in double tracks, belt lines and spur tracks, the necessity for more rolling stock and general increased transportation, as well as the purchase of a great deal of equipment of all kinds. This will make the Southern field an inviting market for railroad material, machinery and all sorts of industrial equipments for some time to come.

The agricultural conditions in the South are hardly less favorable than the industrial situation. The farmers are using their recently accumulated surplus money in a line of improvement in houses, implements, stock, soil betterment, etc., that will compare favorably with the industrial activity of the towns and cities.

LEE J. LANGLEY.

ON BATSON'S PRAIRIE.

Phases of the Breaking Loose of One of the Oil Wells.

[Special Cor. Manufacturers' Record.]

Beaumont, Texas, December 28.

The Parafine Company's No. 2 well on Batson's Prairie, which ran wild, was drilled sixteen feet into a porous oil rock. The well gushed so suddenly and powerfully that the four-inch drilling pipe could not be removed, and after the oil had flooded the Prairie for some distance about, the drilling pipe was sawed off and dropped into the well and a gate valve placed upon the casing and closed. Later connections were made between the well and the earthen tank 1900 feet distant, the oil flowing of its own pressure through the 1900 feet of flow line to the tank. Estimates of the well's production vary from 5000 to 15,000 barrels—I consider 10,000 conservative. Under the present circumstances an accurate gauge is extremely difficult, if not impossible.

Progress being made on the remaining wells is as follows: Guffey No. 1 is rimming down; Guffey No. 2 is said to be producing about 250 barrels from the 380-foot stratum; the Parafine No. 1 is still doing between 200 and 500 barrels daily from the 500-foot stratum; the Parafine No. 3 is nearing the oil-bearing depth.

The Guffey pipe line delivered the first oil from the Batson field. That company

has ordered four steel tanks of 55,000 barrels capacity each. It seems to be the only operator at Batson now ready for disposing of the product of the field. Reports from the field are very encouraging, and the oil-bearing territory of this section seems to have been considerably enlarged by the Batson development.

HOLLAND S. REAVIS.

THE BIRMINGHAM DISTRICT.

A Fair Business, With Some Advance in Prices.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., December 28.

Those who, because last week was Christmas, anticipated only a nominal demand for iron, were disappointed, for the orders were uninterrupted, and even Christmas Day was not exempt from their intrusion. The feeling seemed to be that it would be a good thing to take on a little more iron while the other fellow was taking on a little more Christmas. The result was a very fair business, and a material part of it was at an advance in price. The individual lots taken were not large, but many of them were of very respectable size, and the aggregate of the business for the week showed that a fair activity had marked transactions.

Early in the week a transaction on the basis of \$10 for No. 2 foundry, covering 2000 tons, and extending as to delivery through the first quarter, was concluded. There was also a sale of 2500 tons on the basis of \$9.50 for No. 2 foundry, delivery just as soon as cars could be obtained and loaded. The buyer fought to string out the deliveries during the first quarter, which the seller declined to consider except at an advance. He finally accepted it with prompt shipment. The trades at this figure were not frequent, and when made prompt shipment was stipulated every time. There was a strong inclination to advance price to a basis of \$9.75 and \$10 for No. 2 foundry, and while there is no concert of action in doing so, the tendency to that end has been steadily growing, and it looks now as if the minimum of \$10 for No. 2 foundry will be the ruling price before the close of the week. The president of the leading interest said to your correspondent: "We have advanced our price this week to \$9.75 and \$10, and are obtaining it," and we are very well satisfied at our rate of selling.

The rumors from buying markets of sales on basis of \$9.25 for No. 2 foundry find no credence here. I don't know any furnace-man here who would sell at \$9.25 when he could sell for \$9.75 and \$10. They all have faults, but none of them are built that way. The demand has come from all the various lines, and the interest in the market keeps apace. One would naturally anticipate, after the heavy buying that has been the feature of the market, that there would be an easing up in the demand and a listlessness in the market. But that don't prevail. The estimate as to the sales registered since the first of November as given in letter of last week has caused more or less comment, and has caused the leaking of more facts, requiring a revision of the statement. The two leading interests are now credited with booked sales that add up to pretty close to the aggregate credited to all. Then it has been made reasonably clear that all the other interests have booked orders amounting to at least 200,000 tons. The grand aggregate, then, would be in the neighborhood of 600,000 tons. And this amount is close to the output for six months. This statement gives one a correct idea of the magnitude of the selling that has been going on. But the furnaces have scored only a nominal profit on the average business they have concluded.

In the interest of harmony among the

various furnace interests, and for the purpose of adopting a satisfactory plan of co-operation, a meeting has been appointed to convene in this city today at 2 o'clock to discuss the iron situation and to devise some plan of action for the benefit of mutual furnace interests. It will be a well-attended meeting, and there is a strong influence at work to make it a success. But there is the remembrance of the failure of preceding efforts to regulate supply and demand, and sometimes a fellow feels that when opportunity knocks at his gate, if he don't let down the bars the other fellow will and entertain his rejected angel. It is expected that later in the week a definite report of action can be given. There will be an effort made to agree upon a minimum price of \$10 for No. 2 foundry. There is a very earnest desire on the part of an influential element to work for a plan of co-operation in the interest of all concerned.

Shipments continue up to the limit of facilities for loading. The Sloss-Sheffield Company shipped 42,000 tons last month, and will total 50,000 tons for this month. This can be taken as a criterion for the other interests. Everybody is in a rush on account of shipments.

At the wire-nail and rod mill at Ensley everything indicates a clearing of the decks for prompt action just as soon after the holidays as they can get to work.

The same thing can be said of the steel mill. During the enforced idleness of the mill advantage has been taken of the opportunity to install some needed improvements, and it has undergone a general overhauling. It is now declared with confidence that it can do any work that the most modern mill can turn out, and much that the majority cannot undertake. They commence with order for 30,000 tons steel rails, with more in sight.

The pipe works continue to report favorably as to business. They anticipate a hardening of quotations, which may come at any time and without due notice. Their prospects for business were never more favorable.

Some inquiry was made at the leading shops as to the development of the prospects for business in the coming year. They were very favorable as to the outlook for "a heap of business." In some quarters stress was laid upon the fact that orders were coming in in advance of the heralding of the new year. Texas, particularly, was quoted as offering a very promising field for those properly equipped to care for the business. Oil tanks, stand-pipes, wheat bins and pipe lines will all require attention. In the line of machinery the inquiry is developing business, and it is noted of late that several contracts have been made for engines varying from 200 to 1000 horse-power.

In coal and coke there is no change in the situation as reported last week. The demand for coal continues very fine, and shipments are limited to the facilities offered by the railroads. In spite of the inability of the various roads to promptly meet the demands made upon them, there are several new mines being prepared for operations, and which will be added to our productive capacity before the season is over. All those in operation have more business than they can comfortably care for.

Among the new industries to be added to our list is a pottery plant, to be located in Marion county, with headquarters at this place. It is capitalized at \$100,000, and none of the stock is seeking buyers on the market. It comes very near being a close corporation, and preliminary operations will begin on the buildings at as early a date as practicable. Among the transactions in real estate can be mentioned the sale of the "Mary Pratt" prop-

erty, adjoining Birmingham. It was sold by the Alabama Consolidated Coal & Iron Co., the owner, to the A. & G. S. R. R. for \$80,000, netting them a very fair profit over their purchase price of four years ago. The property will be used as railroad yards, and the furnace will soon be only a memory.

A review of the prospects for business during the coming year discovers nothing to justify a pessimistic view of them. It looks as though prosperity was getting into the saddle again and would assume the reins of direction and guide us on the road to progress and success.

J. M. K.

The Alabama Consolidated Coal & Iron Co. has issued its annual report, which, compared with previous years, shows the following earnings:

	1903.	1902.	1901.	1900.
Gross.....	\$1,910,781.44	\$2,873,216.98	\$3,123,683.33	\$1,741,357.89
Operating expenses, taxes, etc., including interest on fund, debt	1,501,206.68	1,735,830.44	2,454,271.10	2,546,912.76
Net.....	\$409,574.76	\$1,137,386.54	\$669,412.23	\$194,445.13
Dividends, Depreciation, etc.,	155,023.43	165,702.90	300,673.26	392,686.56
Surplus for year.....	\$254,551.33	\$971,683.64	\$368,738.97	\$101,758.57
Surplus forward.....	37,960.55	119,857.33	129,115.73	377,697.35
Total surplus.....	\$119,857.33	\$109,115.73	\$377,697.35	\$489,455.92

Out of these earnings the company has paid regular 7 per cent. dividends on its preferred stock. In 1903 it paid 1 per cent. on its common stock. It has accumulated a surplus of \$601,275.36. It requires \$175,000 per annum to pay the full 7 per cent. on the preferred stock.

The net earnings for November, 1903, based on the very low price of iron then prevailing, were \$21,151.67, after setting aside \$8201.57 for the reserve accounts and interest on the funded debt. These earnings were made possible through the reduced cost of manufacture in the new furnace at Gadsden. This furnace, the finest in Alabama, was rebuilt out of the company's surplus earnings, and went into operation this fall.

Georgia School of Technology.

The Georgia School of Technology, located at Atlanta, which receives from all sources an annual income of about \$65,000 per annum, has closed its fall session under most flattering auspices. There were about 500 students enrolled in its five courses of electrical, mechanical, civil, textile and chemical engineering. There are over fifty students in its senior class that will be turned out next summer in these different branches of engineering. Every State in the South has representatives on its rolls, and this fact is ample evidence of the superior work which is being done by the corps of professors and instructors now employed, forty-two in number. The school's department of textiles is equipped more completely perhaps than any of the other textile schools in the country, especially for the manufacture of cotton goods. Cotton may be taken in the bale to the textile department and turned out into a finished fabric of good design, all operations being performed in the school plant, such as spinning, preparing warps, dyeing warps, weaving, finishing, designing, etc. The other departments of engineering have turned out so many successful men that the school is recognized as one of the most potent factors in Southern development. During recent years many donations in

money have come to the institution, and while none of them have been princely, they have contributed a great deal towards making the departments efficient and superior in equipment. The president of the school thinks that an additional amount of \$100,000 spent for buildings and equipment would enable the enrollment to reach 1000 students in the Georgia School within the next two years.

Memphis, Indianola & Gulf.

The Memphis, Indianola & Gulf Railroad Co. has been incorporated in Mississippi to build a line from Memphis, Tenn., to Gulfport, Miss., about 350 miles, via Indianola and Jackson, Miss. The St. Louis & San Francisco Railroad, according to rumor, is behind the enterprise, J. W. Buchanan of Memphis, one of the incorporators, being connected with the Frisco's legal department. The other incorporators are W. T. Pitts, A. B. Smith, C. F. Klingman, O. C. Stubblefield, W. F. Heard and J. H. Baker of Indianola, Miss.; J. B. Partee and J. B. Covington of Belen, W. C. Ringgold of Lynn, G. W. Faison of Faison, Fred Gritman of Drew, J. A. Crawford of Heathman, F. N. Andrews and R. C. Garnett of Woodburn.

One of the reports in circulation about the new line is that it will build only as far as Jackson, and there connect with the Gulf & Ship Island Railroad for Gulfport.

Newspaper accounts are to the effect that Mr. John T. Patrick, for so many years identified with Immigration and Industrial work for the Seaboard Air Line system, has definitely decided to accept the position of industrial agent of the Southern Pacific Railroad. It is also reported that Mr. H. M. Holleman, a North Carolinian who has made a marked success in interesting New England capital in Southern undertakings, has been appointed assistant chief industrial agent of the Southern Pacific, with headquarters at Houston, Texas. The creation of a strong industrial organization, which these appointments denote, will mean an even more aggressive campaign by the Southern Pacific than has heretofore marked its activities in behalf of the territory it covers, and definite announcement of the new plans and intentions will be awaited with interest.

The Ohio River Valley Improvement Association, of which Col. John L. Vance of Columbus is president, is seeking this year from Congress appropriations aggregating \$2,200,000 for a survey of the Ohio river to facilitate the nine-foot project, for a lock and dam below Henderson, Ky., and for a lock and dam below the Big Kanawha.

The Electric Club of Pittsburg, Pa., will begin on February 1 the publication of the Electric Club Journal, an engineering paper by young engineers for young engineers, which it is expected will enable college students and young engineers generally to share in a technical work of the Electric Club.

Mr. Orr Sang of Chicago has suggested that New Orleans should become the distributing center of the manufactured merchandise of the South, whereby goods might be handled directly from mills and factories to the wholesalers and retailers without the intervention of the traveling man.

A syndicate is undertaking the reclamation for forestry purposes of Gabaret Island in the Mississippi river, between St. Louis and Granite City, Ill., and its first order is for about 1,000,000 one-year-old cottonwood seedlings.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Stonewall (Miss.) Cotton Mills.

Changes are announced in the management of the Stonewall (Miss.) Cotton Mills, due to O. F. Cawthon of Mobile, Ala., and associates having sold their large quota of the company's stock to various parties. A new board of directors has been chosen as follows: Messrs. W. C. Richards and Warren M. Cox of Columbus, Miss.; J. P. Weatherby of Columbus, Miss., and Fred Forcheimer of Mobile, Ala. T. L. Wainwright, under whose superintendency the plant has been for many years, has been elected president. In 1876, when Mr. Wainwright became connected with the enterprise, it had but 300 spindles and seventy-two looms, and was in debt. Now the plant has 21,000 spindles and 482 looms, and is capitalized at \$400,000. The entire manufactory is now equipped with the most modern machinery of all kinds.

A \$60,000 Yarn Mill.

The Keenan Yarn Mill of Columbia, S. C., reported organized last week and having capital stock of \$60,000, will build a plant for the manufacture of yarns. Nos. 3s to 8s cotton waste yarns, mule spun, on the woolen principle, for glove lining, hosiery, carpets, blankets, etc., will be the product, and weekly output will be from 16,000 to 20,000 pounds. Main building will be of brick, two stories high, 50x170 feet, and picker-room will be 40x50 feet. Contract has been placed for the textile machinery, but not for automatic sprinklers, belting, shafting, elevators, pulleys, steam-heating apparatus and dynamos. By June 1 the company expects to begin operations, employing thirty-five operatives. W. J. Keenan is president.

Textile Notes.

Messrs. J. A. Kurfess, S. A. Wardlow and L. S. Andrews have incorporated the Etowah Manufacturing Co. of Atlanta, Ga., to manufacture and deal in dyestuffs, bleaching materials, etc.

Garbutt Lumber Co. of Wright, Ga., has bought the Irwin County Cotton Mills at Fitzgerald, Ga. This plant has 3300 spindles, and it is the intention of the new owner to add 1700 spindles before beginning operations.

Messrs. J. T. Evans and J. Bradbury of Weldon, N. C., were reported last week as to organize company for the erection of a cotton mill. They have not made any definite arrangements as yet, but are now seeking to interest capital in the proposition. Suitable buildings and site available to water-power and electricity have been secured. The manufacture of yarns is contemplated.

Williamsburg (Va.) Knitting Mills has ceased operations in order to make the improvements for which \$30,000 in preferred stock was voted several weeks ago. As has been stated, carding and spinning machinery will be installed. The company intends to spin yarns to supply its twenty-five knitting machines. A building will be erected to accommodate this new equipment. E. W. Warburton (president) and H. S. Bird recently acquired control of the enterprise.

Mr. J. N. Casanova of Havana suggests that every Cuban farmer should plant ten acres of cotton this year, and says that it would mean millions of dollars' worth of the product shipped from the island next year, as well as much business for manufacturers of gins and of machinery for extracting cottonseed oil.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

CONSTRUCTION IN MEXICO.

What the Mexican Central and Other Roads Have Done During the Year.

Considerable railroad construction has been done in the Republic of Mexico during 1903, and among the railroads reporting to the Manufacturers' Record concerning the work done is the Mexican Central, which built a total of 130.31 miles, including the San Pedro extension, 97.72 miles long, and the following on the Panuco division, between Lecheria and Sandoval, 17.78 miles; between Telles and Pachuta, 10.41 miles; between Anita and Honey, 4.40 miles; total on that division, 32.59 miles. Plans for 1904 are not fully determined.

The Vera Cruz & Pacific Railroad reports that forty-one kilometers, about twenty-five miles, of track were completed and put in operation during the year from Achotal to Santa Lucracia, the junction with the National Railroad of Tehuantepec, in the State of Vera Cruz. Plans have not been definitely arranged for work next year, except, perhaps, a line of about two miles around the city of Vera Cruz, giving the road its own route to the custom-house and wharves.

The Coahuila & Zacatecas Railway has built a branch from its main line at a point sixty-five miles south of Saltillo and running northwest twenty miles to the San Pedro Ocampo mining district, in the State of Zacatecas. This line is to be operated with the Shay geared locomotives. Next year it is proposed to build an extension of that branch six miles long to the Bonanza mining district, in the same State.

The Hidalgo & Northeastern Railroad has built ten kilometers of line on its new extension from Ventoquipa to Xicotepec, and expects to build next year about fifty more kilometers.

The Parral & Durango Railroad has built eleven kilometers of line on the extension from Llano Blanco to Mesade Sandia and beyond.

Another important piece of work done in Mexico was the completion of standard-gauging on the National Railroad of Mexico, making it a through route all the way from Laredo, Texas, to the Mexican capital, 840 miles.

The Kansas City, Mexico & Orient Railway during the year built an extension of ten miles to its line east of Chihuahua, making that thirty-three miles long, and also an extension of sixty-seven miles to its line east from Topolobampo, making that seventy-five miles long; total built in Mexico during the year, seventy-seven miles. For next year it proposes to continue construction from Chihuahua east and from Minaca westward to meet the line coming east from Topolobampo.

The Chihuahua & Pacific Railway has made a preliminary survey from El Carpio to Rincon, about sixty miles, and this may be constructed during next year.

There have been a number of new railroad projects announced and plans for building either extensions or branches of existing lines, some of which will doubtless be carried out in 1904.

SUMMIT TO MAGNOLIA.

Electric Railway Projected to Connect Towns in Pike County, Miss.

Dr. H. K. Butler writes from Summit, Miss., to the Manufacturers' Record concerning the proposed electric railway from Summit to Magnolia, for which he and others have acquired a charter. He says

that the line will be about twelve miles long, connecting Magnolia, the county-seat of Pike county; Fernwood, McComb City and Summit. It will connect with the Illinois Central Railroad and the Liberty-White Railroad.

Fernwood, he writes, is one of the largest lumber and brick manufacturing places in the South, and at McComb City, including Whitestown, is another very large lumber and brick manufacturing establishment owned by Capt. J. J. White.

The road will run through a rich country, producing fine cotton, corn and other agricultural products. These four towns have about 15,000 inhabitants, and there is a population of about 100,000 in the surrounding country. There will be two cotton factories along the line. An engineer is to be selected soon.

Dr. Butler, who sends this information, is road contractor for Amite and Pike counties, Mississippi, and also for Tangipahoa parish, Louisiana.

Joplin, Neosho & Pierce City.

Mr. C. Cunliff, one of the incorporators of the line, writes from 822 Chestnut street, St. Louis, Mo., to the Manufacturers' Record as follows:

"The Joplin, Neosho & Pierce City Railroad Co. is incorporated for the purpose of building an interurban electric railroad for freight and passenger service, and will form a loop line, starting at Joplin, thence running east to Sarcoxie, Stott City, Pierce City, Pioneer, Newtonia, Granby, Neosho, Spurgeon and Grand Falls back to Joplin, a belt of about 100 miles.

"This line will cross the Missouri Pacific, the Frisco, the Kansas City Southern and the Missouri, Kansas & Texas railroads. The territory is mostly lead and zinc mining lands; part of it, however, is very rich agricultural and fruit-raising country, this district producing the best strawberries grown, and shipping over 600 cars a year.

"The survey is half done, and we are not in a position as yet to give date of construction, but will push same rapidly as possible."

Memphis & Gulf Plans.

Dispatches from Jackson, Miss., announce that the Pensacola, Meridian & Northwestern Railroad Co. has amended its charter to change its name to the Memphis & Gulf Railroad Co., the latter being the name of the company of which Chester H. Pond of Memphis, Tenn., is president, and which proposes to build from Grenada, Miss., to Pensacola, Fla.

This announcement is taken to mean that the two corporations have been merged. They propose to cover practically the same route. The projectors of the Pensacola, Meridian & Northwestern were John A. Lewis of Meridian, Miss.; W. V. Delahunt and Harry M. Condrey of St. Louis, Mo., and Murray F. Smith of Vicksburg, Miss.

From Memphis comes a report quoting President Pond as saying that the general contracts for building the Memphis & Gulf will be awarded before January 1. Construction is to begin at Grenada, Miss., and proceed via Meridian to Pensacola.

Fort Smith & Northern.

The Fort Smith & Northern Railroad Co. has been chartered at Fort Smith, Ark., to build a line northeast from that place to Harrison, the county-seat of Boone county, Arkansas, about 100 miles. The officers are George Sengel, president; W. H. Robins, secretary, and Ed. Sengel, treasurer.

President Sengel is reported as saying that the line will give a desired connection between Fort Smith and the zinc and lum-

ber regions of the northern part of Arkansas, and that there will be enough natural tonnage along the route to keep the line busy for ten years. Coal will be transported from Sebastian county to the zinc smelters, much lumber will also be handled, and there will also be a large agricultural business. He is further quoted as stating that the line is destined to be part of the proposed St. Louis, Fort Smith & Mexican Railroad. It is to follow the Buffalo valley, and construction is to begin next spring.

LOREE GOES TO ROCK ISLAND.

Oscar G. Murray Elected President of the Baltimore & Ohio.

President L. F. Loree of the Baltimore & Ohio Railroad Co. has resigned, and will on January 1 become president of the Rock Island Company, which controls the Chicago, Rock Island & Pacific and the St. Louis & San Francisco railroads, a system which extends from Birmingham, Ala., to Denver, Col., and from Chicago, St. Paul and Minneapolis to El Paso and Galveston, Texas. Mr. Loree has been president of the Baltimore & Ohio Railroad since June, 1901, and prior to that was a prominent official of the Pennsylvania lines west of the Ohio river. He became president of the Baltimore & Ohio soon after the Pennsylvania Railroad Co. acquired a large stock ownership in it and with friendly interests controlled its policy. Mr. Oscar G. Murray, the first vice-president of the Baltimore & Ohio, has been elected president to succeed Mr. Loree on January 1.

Wichita & Southern.

A dispatch from South McAlester, I. T., announces that the directors of the proposed Wichita & Southern Railway have decided to build that portion of the line from Wichita, Kan., to South McAlester, the International Trust Company of Boston financing the project. Final surveys are to begin January 1. M. W. Wambaugh, 703 Missouri Trust Building, St. Louis, Mo.; W. H. Arnold of South McAlester and others are interested. The entire project is for a line from Wichita, Kan., via South McAlester to Paris, Texas, with a branch from some point in the Cherokee Nation along the valley of the Arkansas river to Fort Smith, Ark., making a total length of about 400 miles.

Tennessee Industrial Railroad.

The Tennessee Industrial Railroad Co. has been incorporated to build a line from a point on the Cumberland river near the mouth of the Harpeth river, and is to run southwest about eighty miles to Clifton, on the Tennessee river, in Wayne county. It will touch Charlotte and other points, besides traversing a rich timber and mineral region. At Pond Switch it will connect with the Nashville, Chattanooga & St. Louis Railroad. It is reported that construction will probably begin early next spring.

The incorporators are W. C. Thorbus and J. D. Parrish of Chicago, Ill.; W. M. Shipman of Pond, Tenn., and S. J. Larkins and W. L. Cook of Charlotte, Tenn.

Royal Blue Book.

The Book of the Royal Blue for December, as might be expected, has something of a Christmas air about it. The opening story well fits the holiday season, and a little poem on Christmas also appears. The second article on the Beautification of American Cities is presented, and is copiously illustrated with good half-tones showing what has been done in foreign cities for municipal adornment. There are two other excellent contributions, one concerning the historic town of

Alexandria, Va., and the other about Springfield, Ill.

Carnesville to Athens.

The Georgia Traction Co. has been chartered to build an electric railway from Carnesville, the county-seat of Franklin county, Georgia, southwest through Madison county to Athens, Ga., the county-seat of Clarke county, about thirty-nine miles. Negotiations and surveys for this line have been in progress for some time. The incorporators are E. H. Van Wey and W. F. Brown of Toledo, Ohio; J. R. Dortch, B. F. Aderhold, W. R. Little and others of Carnesville.

Livingston & Southeastern.

The Livingston & Southeastern Railway Co. has been incorporated in Texas, to build a line eight miles long from Livingston to Knoxville, Texas. It will run through a timber and oil country. The incorporators are W. H. and Hiram Knox, lumbermen; A. F. Kilpatrick, C. W. Hawley and W. F. Robertson of Dallas, C. A. Noblett, L. F. Gerloch, J. W. Cochran and Frank Angel of Polk county and J. E. Miles of Lufkin, Texas.

Standard & Hernando.

The Standard & Hernando Railroad Co. of Holder, Fla., has been incorporated to build a line from Standard, in Marion county, to Hernando, in Citrus county, twenty-five miles. The stockholders are Joseph Buttgenbach, George F. Dittmar and C. H. Lloyd.

Railroad Notes.

A report is in circulation in Nashville, Tenn., that Myron T. Herrick of Cleveland, Ohio; Senator M. A. Hanna and others are projecting an electric railway to extend from Milwaukee, Wis., via Nashville to New Orleans, La.

Mr. R. H. Wright, president of the Durham Traction Co., Durham, N. C., writes the Manufacturers' Record that the company has not definitely decided to build the extension to Chapel Hill. A survey is now being made preliminary to preparing estimates.

It is reported from Galveston, Texas, that two of the largest railway companies whose tracks enter that city are considering plans to build a causeway to connect the island with the mainland, providing a drawbridge midway for the passage of vessels.

Mr. C. C. Watts, president of the Coal River & Western Railway Co., writes from Charleston, W. Va., to the Manufacturers' Record that the line which was built this year from St. Albans to the Forks of Coal, thirteen miles, is now being extended five miles from the Forks of Coal to Fork Creek, on Big Coal river.

Mr. Alexander Robertson, manager of the Western Maryland Railroad, has resigned to become general manager of the Terminal Railroad Association of St. Louis, and will be succeeded by Mr. Horace G. Clark, now superintendent of the middle division of the Wabash Railroad Co., with headquarters at Decatur, Ill.

Official announcement is made by the Mexican Central Railway Co. of the appointment of E. E. Styner as general manager, relieving Vice-President H. R. Nickerson of the additional duties of that position. Mr. Styner has been general superintendent. The office of assistant general manager has been abolished, F. B. McKercher having resigned.

The Galveston Tribune says that, with unlimited beds of superb granite, Texas should seek to be represented in the contracts amounting to \$10,000,000 for new buildings at Washington.

MECHANICAL.

Ransome Concrete Mixer.

Contractors and other users of concrete mixing machinery will find something to interest them in a new and improved mixer introduced recently. An accompanying illustration shows the machine, it being the Ransome Drum Mixer, manufactured by the Ransome Concrete Machinery Co., 11 Broadway, New York. Several sizes of the machine are built.

For short jobs the mixer can be operated while supported on the truck wheels,

chine meanwhile. In a few minutes the machine will be washed clean. Discharge water through chute or leave it to wet next batch."

A New Post Crane.

In order to meet the demand for a light, inexpensive crane for foundries, erecting and assembling shops, serving machines, etc., there has been designed the equipment shown by the accompanying illustration. It will interest those who have occasion to use such an equipment to know the general construction of the machine.

ton capacity, with fifteen feet trolley travel, but the crane can be furnished up to five tons capacity and twenty feet trolley travel. This post crane is built by the New Jersey Foundry & Machine Co., offices at 9 and 15 Murray street, New York, which company also builds jib, I-beam, locomotive and gantry cranes, elevating and conveying machinery.

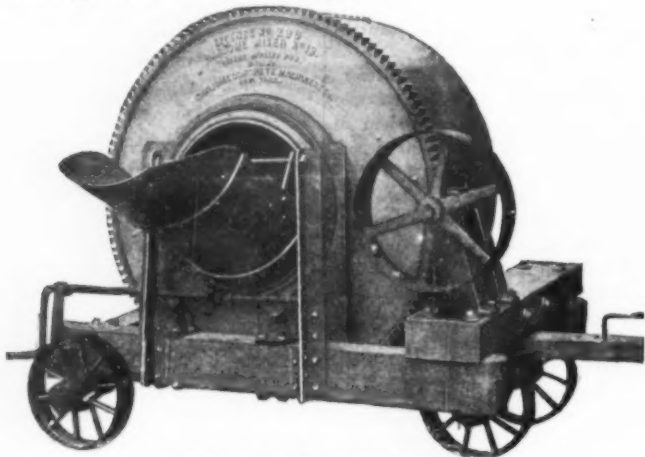
New Bertsch Shears.

The accompanying illustration shows a new shears designed especially to meet

with steel-faced jaws, and is of simple construction, having no triggers or springs to get out of order, and it is entirely reliable.

The table is provided with patented adjustment, which insures convenient, accurate and safe adjustment.

A gang punch-bar attachment is furnished with this shear if desired, for the proper difference in price. By means of this the machine can be converted into a combined shear and gang punch. The punch bar is arranged so that it can be



THE RANSOME DRUM MIXER.

but for long jobs it has been found advisable to remove the wheels and place the mixer upon a firmer bed. In either case the mixer should be set level.

To attain the best results is recommended the use of a steel charging hopper. This device greatly facilitates charging the machine, as a batch may be instantaneously fed therefrom to the mixer upon discharge from the mixer of the previous batch, the hopper being charged whilst the previous batch is in process of mixing.

The operation of this mixer is clearly seen in the company's instruction to users, as follows: "Before starting, incline the delivery chute downward and inward. Carefully oil and grease all bearings except the rolling contact between the drum and the rollers, which run dry for the first day or two; then lubricate with good axle grease. Use a heavy grease in the cups, and at intervals of two and a-half hours give two turns on all grease cups and re-oil all journals not supplied with grease cups. Lubricate gearing frequently with axle grease. Attach water supply to stopcock under the water tank and fill later with water.

"After starting, close the outer stopcock and open the inner. The water will then flow into the machine. As soon as it is all in close the inner stopcock and open the outer one, so that the tank may be refilled when needed for the next batch.

"If the quantity of water that flows into the mixer is too great, loosen the locknut at the base of the tank and screw the latter down upon the standard; retighten the locknut. If there be insufficient water, screw the tank upward on standard, securing in position with the locknut.

"Whilst the water is flowing into the machine charge the machine with cement, stone and sand in proper proportions, using hopper, wheelbarrows or other means for this purpose. When the materials have been in the machine for upwards of one-half minute, reverse the chute. The mixer will discharge the batch within fifteen seconds.

"Whenever the machine is to be stopped for any length of time, one hour or more, flood same with water, running the ma-

The bearings at top and bottom of the mast are of the caged roller type, and the downward thrust is taken up by a bronze plate between two hardened-steel plates. The trolley is roller-bearing, and can be furnished to run either on the top or bottom flanges of the I beam. If desired, a geared trolley can be furnished for racking with hand chain. The tie rods are so spaced as to allow a maximum trolley travel, the wheel-stop being at the end of the jib, as shown. This crane is easily

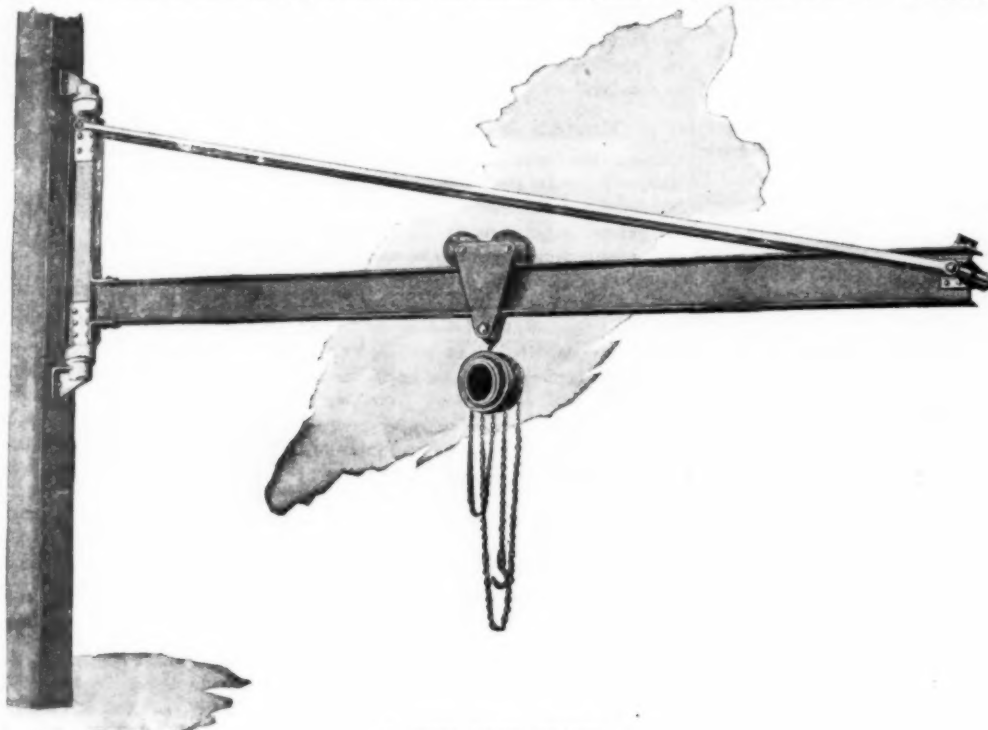
the requirements of shops that do not have use for a regular mill shear or heavy plate shear, and as the ordinary gap shear is too light for this class of work, it is thought the new style and size has a place among standard shears. This shears is made from four feet to sixty-eight long for No. 12 gauge to one-quarter-inch material.

The automatic holddown is operated by a cam, giving it ample travel, so as not to interfere with handling the plates, and

disengaged and locked independently in a few seconds; therefore the shear can be used as a regular shear or as a gang punch, or both combined, as desired. Photographs and illustrations showing this attachment will be furnished on application.

All regular front and rear brackets and gauges for trimming, slitting and squaring are furnished.

The machine has no complicated parts to get out of order. It is heavy through-



A NEW POST CRANE.

put up, the bracket bearings being bolted to a post, column or wall, as desired. By a slight variation in the construction of the brackets and bearings the crane can be lifted from the sockets and transferred to other duplicate sockets placed at desired points, thus covering a large floor space with one or more cranes. Though the crane has been on the market but a short time, there is already a large demand, the call being mostly for the one-

as it has half-round openings in the bottom edge, the shearing line can be seen at all times.

The bearings are extra large. The gears and shafts are extra heavy, and, it being a deep-throat machine, the throat being made any required depth up to twenty-four inches, it is preferably made with overhead drive, so that the gears and shafts are out of the way.

The clutch is the positive four-jaw type,

out, properly proportioned, and is built for continuous use for the capacity specified. In beauty of design and finish it is unsurpassed.

References can be given to a number of parties who have this shear in operation doing excellent work.

Messrs. Bertsch & Co. of Cambridge City, Ind., build this machine. They have had nearly twenty-five years' experience as manufacturers of this class of tools.

Spray Pump for Fruit-Growers.

Fruit-growers who may desire to use a gasoline engine for spraying will find their requirements met in the Myers power spray pump, represented by the accompanying illustration. This pump is fitted with concave brass valve-seats, ground brass poppet valves and removable brass cylinder, the latter so arranged that it can be removed when necessary. The valves are on top, and can be reached by removing top cap and air chamber. The pump is fitted with a check valve between the air chamber and pump, which retains the

this binder and by this process are waterproof, remain hard in the fire until thoroughly consumed, and will stand handling and transportation as well as the average hard coal. Anthracite-dust briquettes are free-burning. A hot fire can be obtained with them in one-quarter the time required with anthracite coal, less carbon is left in the ash, therefore making less ash, and they will give more heat than the same weight of coal from which the dust came.

"The process and machinery as developed by this company is covered by a



MYERS POWER SPRAY PUMP.

pressure in the air chamber, thus relieving all strain except on movement of the piston. It has brass piston rod, supported by a strong yoke attached directly to the head of the pump, which secures perfect alignment. It is furnished with yoke and stub pitman to attach to back-gear engine. The safety valve can be set to regulate the pressure desired. The pressure gauge registers 200 pounds. The pump is built of sufficient weight and strength to withstand the pressure necessary for supplying four strings of hose. Messrs. F. E. Myers & Bro. of Ashland, Ohio, are the manufacturers.

Briquetting Coal Dust.

For several years past much attention has been given to the possibilities of manufacturing fuel briquettes from coal dust in the United States. The subject is an interesting one, and therefore the Manufacturers' Record presents the following letter received from the Zwoyer Fuel Co. of 25 Broad street, New York city:

"We call attention to our process of briquetting either anthracite or bituminous coal dust. This process and machinery is no experiment or chance discovery, but is the result obtained after five years of experimental work on no small scale. This should not be mistaken for one of the many theoretical ideas with a few handmade laboratory samples of coal briquettes that have not been made or probably never can be made on a commercial scale. Our process and machinery are beyond the experimental stage. For the last seven months we have had a 100-ton plant in operation in Jersey City making a commercial product of anthracite coal dust, which has been sold during that time in New York and Jersey City, taking all we could make and paying us a fine profit for same. That is something never before done in this country—making a commercial briquette which sells against the best anthracite coal in a market where the best anthracite coal in the world is sold at the lowest figure.

"The binder used is almost as staple an article as coal. It is a combustible, leaves no ash and adds to the calorific value of the coal dust. The briquettes made with

number of patents issued, with others pending. The machinery is entirely automatic. The present 100-ton plant on anthracite coal dust has been run by two, and sometimes three men, but there has never been more than four men employed in its operation at any time. The labor cost per ton of briquettes manufactured has been about twenty cents. The same force could operate a plant fully double the capacity of the present one. In a larger plant the labor cost would not exceed fifteen cents per ton of briquettes turned out. The cost of binder has never exceeded eighty cents per gross ton (and is costing us at present less than that), which makes the total maximum cost of labor and binder \$1 per gross ton of briquettes manufactured in this small plant.

"This company is open for business, and invites correspondence or personal interview with parties who may desire to briquette their by-product of coal mining (the coal dust) and turn it into a high-priced commercial article under a license and protection of this company's patents. We would be pleased to show our present plant in operation to people interested in this subject, give them or their representatives all the facilities to make any tests or experiments they may desire to make, together with any information on this subject or data they may ask for. With the market for the product in existence, the coal-briquetting business could be made to pay, without any difficulty, from 50 per cent. to 65 per cent. annually on capital invested in the plants. We would be glad to hear from you, especially if you are interested in this matter, and would be pleased to send a sample box of either anthracite or bituminous coal briquettes to any address you may designate."

The Fencing Girl.

For several years the fencing girl has been very much in evidence on advertising literature. Her services are engaged for the Paxson calendar of 1904, and give that publication a handsome appearance. The picture of the fencing girl is a real work of art in this instance, the coloring and printing being especially attractive. The J. W. Paxson Co. of Philadelphia issues the calendar to remind buyers that it furnishes foundry supplies and equipment.

INDUSTRIAL NEWS OF INTEREST.**Installing Westinghouse Machines.**

The Allegheny Pn & Bracket Co. of Covington, Va., is installing Westinghouse two-phase generators to take the place of two-phase machines recently put in position for operating two-phase induction motors for woodworking and ice plant.

Visiting Johns-Manville Branches.

T. F. Manville, president of the H. W. Johns-Manville Company, 100 William street, New York, started for the West on December 22, and before returning to New York will visit his company's branches in Milwaukee, Chicago, St. Louis and New Orleans.

Tennessee Hardwood Lands.

Investors or manufacturers seeking hardwood lands are advised that a tract of 20,000 acres in Tennessee is offered for sale. Poplar, oak, ash, chestnut, beech and hickory trees are on the lands. Address Georgia Title Guarantors Co., 516 Prudential Building, Atlanta, Ga.

Mill and Timber Lands.

Parties who may be seeking an opportunity in the lumber industry are invited to address J. W. Madden, Crockett, Texas. Mr. Madden has for sale about 1200 acres of timber lands, a saw-mill of 10,000 feet daily capacity, together with wagons, oxen and other necessary equipment for conducting business.

Timber Lands for Sale.

Among the various timber properties in the South now offered for sale are certain tracts in Virginia and West Virginia. They consist of 5000 acres and 10,000 acres containing oak and other timber in West-Virginia, and 20,000 acres in Virginia. Silas Cobb, Arrott Building, Pittsburg, Pa., can be addressed.

Wants Cement and Lime Agency.

Manufacturers of cement and lime who desire to be represented in Southern territory may find it advantageous to address "Lime and Cement," care of the Manufacturers' Record. That address represents an established company in the South which wants to correspond relative to agencies for cement and lime.

Expert Appointed.

The special master in bankruptcy case of Bay Shore Terminal Co., now pending in United States Court, has announced the appointment of H. S. Kemp of the Standard Electric Co., Norfolk, Va., as an expert to make a practical inspection of the Bay Shore line to ascertain if the petition of the receivers of the road to be allowed to issue \$150,000 in receivership certificates for improvements should be granted.

Remodeling a Furnace.

During the idleness of the Tod furnace of the Youngstown (Ohio) Steel Co., recently blown out, the stack is being extensively remodeled. Chief among the improvements is an entire new top and the installation of a complete charging device, including new skip bridge with automatic charging buckets. Other repairs at the furnace embrace new blast piping and construction. The work is being done by the William B. Pollock Co. of Youngstown, Ohio, blast-furnace builders and erectors of all kinds of steel-plate construction.

Westinghouse Apparatus for Manila.

An important export order has just been closed with the Manila (P. I.) Construction Co. for a complete power equipment for city traction system. The order was secured through Westinghouse, Church, Kerr & Co., and comprises the following machinery: Three 750-kilowatt Westinghouse turbo-generator units, two compound engine exciter units, one motor-driven exciter unit, three 500-kilowatt rotary converters, one 300-kilowatt rotary converter, four 250-kilowatt oil-insulated transformers, complete switchboard, one series booster. This booster is mounted on the extended shaft of one of the rotary converters.

Another Recommendation.

Engineers who have tried Albany Grease, the lubricant for machinery of all kinds, invariably commend it for the extreme cleanliness in the engine-room which its use insures, as well as for its other superior qualities. Messrs. Adam Cook's Sons, 313 West street, New York city, the only makers, have received a letter from John Scherer, engineer for J. Sullivan & Sons, Philadelphia, saying: "I have been using Albany Grease now for some time on all bearings connected

with my engine, and also on main line of shafting from engine-room, and I must say that it is more than I wished for, being cleaner, cheaper and less trouble than the best oil."

For Export to Russia.

Russia, with its 141,000,000 people, offers an inviting market for American manufacturers, and that country's industries are as yet in their infancy. Among other advantages offering opportunities for favorable competition in Russia is the 20 per cent. reduction in import duties on all direct shipments to Russian ports of entry. Messrs. M. Gradstone & Co. represent the interest of American manufacturers for export to Russia exclusively. They have representatives in all the large cities, and their own experience in the custom-houses on the Russian-German frontier perfects their facilities to serve manufacturers. Messrs. Gradstone & Co. have their offices at 2 and 4 Stone street, New York.

Thomas Cyprian Frenyear.

Thomas Cyprian Frenyear, sales manager of the new Canadian Westinghouse Company, died on December 10. He was well known to the electrical profession and among his associates as a man of unusual good judgment and ability in his chosen field. For eight years Mr. Frenyear was with the sales office of the Westinghouse Electric & Manufacturing Co., and in November went to the new Canadian company. In announcing his death the Westinghouse Company's vice-president says: "The management desires to place on record its thorough appreciation of his able and loyal service and of the loss to the Westinghouse interests by the untimely removal of a young and zealous official whose future seemed so full of promise."

Succeeds Whitney & Sloo Company.

It will be of interest to many manufacturers, dealers in and buyers of machinery and mill supplies to learn that the machinery and supply business of Whitney & Sloo Company, New Orleans, will be continued after January 1 by the Whitney Supply Co., Limited. The Whitney Supply Co. has incorporated, with \$50,000 capital, and will carry a full stock of machinery and mill supplies, with offices at 200-204 S. Peter street, also acting as agents for the Dodge Manufacturing Co.'s power-transmission appliances, Graton & Knight Manufacturing Co.'s leather belting, Manhattan Rubber Manufacturing Co. and B. F. Goodrich Co.'s rubber goods, Trenton Iron Co.'s wire rope, Rawson & Morrison Manufacturing Co.'s hoisting engines, and a full line of mill supplies generally. The Whitney & Sloo Co. will continue manufacturing saddlery, harness, collars, etc., at the old location, 108 to 112 N. Peter street.

Power & Mining Machinery Co.

Users of power and mining machinery will be interested in the announcement that the Loomis-Pettibone Gas Machinery Co., after the recent increase in capital, has merged with the Holthoff Machinery Co. of Milwaukee, under the name of the Power & Mining Machinery Co., offices at 52-54 William street, New York. This company will be fully prepared to meet the increasing demand for the American Crossley gas engines, Loomis-Pettibone gas apparatus and Holthoff mining machinery, the manufacture of the latter to be continued under Mr. Holthoff's supervision. Extensive improvements are being made to the Milwaukee works. There are over 50,000 Crossley engines in operation. The company guarantees to produce power with a consumption of one pound of good bituminous coal per brake horse-power hour, or with two and one-half pounds of wood. This cannot fail to interest all power-users.

Try Sternberg Rivets.

The manufacture of rivets from one-quarter inch in diameter up to the largest diameters for which the trade has called is given especial attention at the Reading works of the American Steel & Iron Manufacturing Co. of Lebanon, Pa. This was formerly J. H. Sternberg & Son's mill. Rivets bearing its trademark are most extensively used. The uniform excellent quality and finish of these boiler rivets is well known to most boiler builders, and those to whom these features are not known should send address for a free sample lot. The company claims that it has supplied the government and private shipyards engaged upon government contracts with probably nine-tenths of all the rivets used in the construction of our new navy. All of the rivets are made from the material produced in the company's own rolling mills, which enables it to absolutely control the quality and finish of Sternberg's iron and steel rivet rods.

CONSTRUCTION DEPARTMENT.

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY.

The Manufacturers' Record seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

ADDRESS FULLY.

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECTLY.

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

ALABAMA.

Anniston—Planing Mill.—A. H. Andrew of Frithurst and J. M. Lofley of Anniston are installing planing mill.

Birmingham—Biscuit Factory.—E. Charles Christy, general manager of the American Biscuit Co., with headquarters in Baltimore, Md., is investigating Birmingham as site for erection of \$100,000 biscuit factory (late reported).

Birmingham—Furniture Company.—Harris-Lovelady Furniture Co. has been incorporated, with capital of \$18,000, and F. O. Harris, president; R. H. Hamrick, vice-president; O. M. Caldwell, secretary, and T. J. Carter, treasurer.

Mobile—Machine Shop.—Richardson & Goddard are building new boiler shop 53x149 feet.

Opelika—Light and Power Plant.—H. S. Persons, F. S. Persons, H. C. Davidson, J. W. Persons of Montgomery, Ala., and others have incorporated the Alabama Electric Light & Power Co., with authorized capital of \$50,000, to furnish electric light and power for Opelika and other Alabama towns.

Randolph County—Timberland Development.—Marbury Lumber Co. of Marbury, Ala., has purchased and will develop 25,000 acres of timber land in Randolph county.

Spruce Pine—Pottery.—N. F. Thompson and others of Birmingham, Ala., have organized the Thompson Pottery Co. with capital of \$100,000, to erect factory at Spruce Pine for manufacture of pottery and glassware.

ARKANSAS.

Banner—Coal Company.—Banner Coal Co. has been incorporated, with capital of \$25,000, by D. J. Young, John W. Howell, Wm. M. Cravens and others.

Batesville—Mercantile.—Chartered: Denison Mercantile Co., with capital of \$15,000, by Walter H. Denison and others.

Brinkley—Water-works.—City is considering construction of new system of water-works. Address The Mayor.

Danville—Lumber Company.—Dutch Creek Lumber Co. has been incorporated, with capital of \$100,000, and T. M. Miller, president; W. L. Kinnaman, vice-president, and R. M. Rutherford, secretary-treasurer.

Izard County—Timberland Development.—J. W. Maddux and Woods Thomas of Watertown, Tenn., have purchased 3000 acres of timber land in Izard county, and will develop same, marketing both rough and dressed lumber.

Fort Smith—Pipe Line.—Mansfield Gas Co. of Mansfield, Ark., has been granted franchise by city of Fort Smith to pipe the streets for natural gas (late reported) for heating and illuminating purposes; pipe line will be constructed from Mansfield to Fort Smith at probable cost of \$160,000.*

Mena—Water-works.—Joseph Evans has contract for installing system of water-works; contract price about \$20,000.

Perryville—Lumber Company.—Fourche River Lumber Co. has been incorporated, with capital stock of \$500,000, by Nelson P. Bigelow, Lyman T. Walker, Frank H. Hartshorn and others.

FLORIDA.

Bartow—Turpentine Plant.—Sphaler & Price of Torrey, Fla., have purchased entire turpentine plant and property of J. W. West & Co., consisting of 10,000 acres.

De Funiak Springs—Telephone System.—Company has been organized, with capital of \$10,000, for constructing telephone system. S. K. Gills is president; Wm. Rogers, vice-president; R. W. Storrs, secretary, and Hope Lawton, treasurer.

Herndon—Turpentine Lands.—M. T. Parish & Co. have purchased 12,000 acres of land near Herndon, as recently reported, which they will utilize as turpentine farm; still capacity thirty barrels.

Jacksonville—Mercantile.—Chartered: C. H. Hargraves Co., for conducting general grocery business, etc., with capital of \$75,000, by Charles H. Hargraves and others.

GEORGIA.

Albany—Water-power Development.—Albany Power & Manufacturing Co., Smith D. Pickett, Jacksonville, Fla., president, has, it is reported, purchased the Big Shoals and Mussel Shoals water-powers at Albany, and will develop same electrically to furnish power to the city for its electric-light plant and water-works; also to furnish power to other industries now using steam.

Atlanta—Laboratory.—N. P. Pratt Laboratory has increased capital stock from \$100,000 to \$300,000, as recently reported, for enlargement of Atlanta plant and two additional factories elsewhere; character of product, liquefied carbonic acid gas and a series of by-products.

Atlanta—Dyestuffs, etc.—Chartered: Etowah Manufacturing Co., to manufacture and deal in dyestuffs, bleaching materials, etc., by J. A. Kurfees, S. A. Wardlow and L. S. Andrews.

Atlanta—Carbonating Works.—American Ginger Ale & Carbonating Co. has been incorporated, with authorized capital of \$200,000, by W. T. Ashford, B. M. Blount, John W. Grant, R. D. Spalding, H. A. Inman, R. B. Swift and others.

Columbus—Publishing.—Chartered: Southern Workman Publishing Co., with authorized capital of \$10,000, by J. F. Ligon, W. H. Winn, W. J. Kelly and others.

Columbus—Hardware Company.—William Beach Hardware Co., reported recently as incorporated, has completed organization, electing O. C. Bullock, president, and W. B. Beach, secretary-treasurer.

Decatur County—Timberland Development.—Brown & Co. of Oglethorpe, Ga., have purchased 6000 acres of timber land in Decatur county and will erect saw-mill (as recently reported) for developing the property of 20,000 feet daily capacity; will operate as the Decatur Lumber Co.

Ellsworth—Woodworking Factory.—Woodworking factory is being erected. Address for particulars George W. Adams, care Forestry Manufacturing Co.*

Fitzgerald—Cotton Mill.—Garbutt Lumber Co. of Wright, Ga., has bought the Irwin County Cotton Mills at Fitzgerald, and will add 1500 spindles; plant now has 3300 spindles.

Waycross—Electric-light Plant, Ice Factory, etc.—Satilla Manufacturing Co., en-

gaged in electric-light and power business, manufacture of ice, etc., has amended its charter, changing name to the Waycross Electric Light & Power Co. and increasing its capital stock.

KENTUCKY.

Breathitt County—Coal and Timber Lands. Continental Realty Co., 848 Equitable Building, Baltimore, Md., has purchased of Walter and Carl Day 7500 acres of coal and timber land in Breathitt county, on the Ohio & Kentucky Railroad, and will develop same. Two coal openings on the property are now in operation.

Jackson—Timber and Mineral-land Development.—M. B. Dodson of New York, representing Eastern parties, has purchased 40,000 acres of mineral and timber land in Breathitt county, and will organize \$150,000 stock company for developing the property.

Lexington—Gas Company.—Appalachian Gas Co. has been incorporated, with capital of \$1,000,000, by John R. Allen, M. C. Alford and J. H. Hazelrigg.

Louisa—Water-works.—System of water-works will be constructed. Address The Mayor.

Louisville—Ice and Cold-storage Plant.—Central Consumers' Co. will expend \$100,000 in installation of ice plant with capacity of fifty tons per day and cold-storage plant of 5000 tons capacity.

Louisville—Brick Works.—Joseph Morgan of Cleveland, Ohio, is investigating the soil of Louisville with view to developing same by erection of brick and soil-pipe and building-block works.

Louisville—Shirt Factory.—Bernstein & Co., shirt manufacturers, have incorporated, with capital of \$15,000. Bernard Bernstein, Wm. E. Mullinax and B. J. Breeden are the incorporators.

Louisville—Pickle Factory.—Hyman Pickle Co. is having plans prepared for erection of new four-story building equipped with latest improved machinery for making pickles, at cost of \$60,000.

Louisville—Mercantile.—Chartered: J. N. Struck & Bro. (established), with capital of \$75,000, by Alfred N. Struck and others.

Louisville—Real Estate.—Stark Land & Investment Co. has been incorporated, with capital of \$12,000, by C. D. Burge, N. S. Atwood, M. R. Forrester and others.

Paris—Grain Elevator.—Paris Milling Co. will erect grain elevator of 75,000 bushels capacity.

Shepherdsville—Mining.—Bullitt County Gas, Oil & Mineral Co. has been incorporated, with capital of \$1500, by W. T. Lee, H. F. Troutman and C. L. Croan, for development of oil, gas and mineral properties in Bullitt county.

LOUISIANA.

Lake Charles—Laundry.—Lakeside Steam Laundry, Limited, has been incorporated, as lately reported, with J. H. Huston, president, for operating the Lakeside Laundry, established; plant will be enlarged and improved.

New Orleans—Oil, Gas and Mineral-land Development.—Gallway Oil Corporation of Louisiana has been incorporated, with capital stock of \$2,000,000, for development of oil, gas and mineral lands, by Peter Doyle and associates.

Whitecastle—Water-works.—City has issued \$10,000 of water-works bonds. Address The Mayor.

MARYLAND.

Baltimore—Optical Company.—Chartered: F. W. McAllister Co., with authorized capital of \$25,000, by Francis W. McAllister and others.

Baltimore—Stamping Company.—Maryland Stamping Co. has been incorporated, with capital of \$100,000, for manufacture of metal wares, etc., by John R. Corb, John B. Stansley, Ernest Sharp and others.

Hagerstown—Heating Company.—Moser Heating Co. has been incorporated, with capital of \$6000, by Albert Heard, Harry E. Baker, G. B. McC. Wolf and others, and will absorb the business of the E. C. Moser Co.

Hagerstown—Bicycle and Automobile Works.—Pope Manufacturing Co. will build an addition to its Hagerstown plant, one story, 40x60 feet.

Kensington—Telephone System.—Kensington Telephone Co. has been incorporated for construction of long-distance telephone service. Byron A. Chapin is president; Eugene

Jones, vice-president; George R. Taylor, secretary, and C. E. Brulington, treasurer.

Washington, D. C.—Tobacco Company.—Washington Tobacco Co. has been incorporated, with capital of \$100,000, by E. Asbury Davis, Frank L. Lecompte, Frederick W. Plugge and others.

Washington, D. C.—Sanitary Housing Company.—Sanitary Housing Co. has been organized, with capital of \$50,000, by John W. Foster, John Joy Edson, George Truesdell, George M. Kober and others for the betterment of the conditions of the poor who are housed in unsanitary buildings.

MISSISSIPPI.

Mt. Olive—Electric-light Plant and Water-works.—City will construct system of water-works at cost of \$12,000, and later on install electric-light plant. W. F. Wilcox, Jackson, Miss., is engineer; M. M. Evans, mayor.

Waynesboro—Mercantile.—Wetherbee-Huggins Company has been incorporated, with capital of \$50,000, by C. P. Wetherbee and J. R. Huggins.

Yazoo City—Printing.—Chartered: Waller Printing Co., with capital of \$10,000, by Geo. W. Waller and others.

MISSOURI.

Flat River—Ice Plant, etc.—Flat River Ice & Cold Storage Co. has been incorporated, with capital of \$15,000, by M. B. Barber, A. W. Bruster, James W. Halliday and others.

Kansas City—Mercantile.—Chartered: W. S. Ringo Grocer Co., with capital of \$2000, by I. A. Ringo and others.

Palmyra—Electric-light Plant and Water-works.—W. E. McCully of Macon, Mo., has purchased light and water plants of the Palmyra Light & Water Co.

St. Louis—Manufacturing.—Chartered: Lehnbeuter-Deichman Manufacturing Co., with capital of \$15,000, by Joseph Lehnbeuter, Jr., Oscar E. Deichman and others.

St. Louis—Tobacco.—Colonial Leaf Tobacco Co. has increased capital from \$16,000 to \$25,000.

St. Louis—Real Estate.—Julia Realty Co. has been incorporated, with capital of \$25,000, by George F. Dowell and others.

St. Louis—Real Estate.—Kaiser Investment Co. has been incorporated, with capital of \$15,000, for dealing in and improving real estate, by Chas. C. Kunz and others.

St. Louis—Woodenware Works.—St. Louis Woodenware Works has been incorporated, with capital of \$180,000, by Frank Everts, Oscar T. Tamm, Edward Everts and others.

St. Louis—Shoe Company.—Peters Shoe Co. has increased capital from \$500,000 to \$800,000.

St. Louis—Lumber and Timber Company. Colonial Lumber & Timber Co. has increased capital from \$61,000 to \$100,000.

St. Louis—Remedy Company.—Eu Gyn Remedy Co. has been incorporated, with capital of \$50,000, by Arthur Conway, H. D. Vanderbech and others.

St. Louis—Real Estate.—Dieckman Realty Co. has been incorporated, with capital of \$20,000, by William Dieckman and others.

St. Louis—Shoe Company.—Tennent Shoe Co. has increased capital from \$400,000 to \$800,000.

NORTH CAROLINA.

Alora—Lumber Company.—Craggy Lumber Co. has been incorporated, with capital of \$100,000, by J. S. Adams and S. F. Chapman.

Edenton—Electric-light Plant.—Standard Electric Co. of Norfolk, Va., has contract for installing \$10,000 electric-light plant at Edenton, N. C.

Greensboro—Ice Factory.—Chartered: Power & Armstrong Ice Manufacturing Co., with capital of \$20,000, for manufacture of ice, brick, etc., by J. R. A. Power, T. A. Armstrong and M. M. Armstrong.

Lexington—Chair Factory.—Central Manufacturing Co. is installing additional machinery for increasing output from 225 to 400 chairs per day.

Lexington—Chair Factory.—It is reported that another chair factory will be established, John D. Holt being interested.

Raleigh—Publishing.—Agricultural Publishing Co. has been incorporated, with capital of \$7500, by J. W. Bailey, C. H. Poe, T. B. Parker and others.

Raleigh—Telephone Company.—Interstate Telephone Co. and the Bell Company have merged into one company, to be known as the Capital City Telephone Co., incorporated

with capital stock of \$300,000 by J. S. Carr, Geo. W. Watts and L. A. Carr of Durham, N. C., and W. T. Gentry, J. W. Crews of Atlanta, Ga., and others.

Randleman—Mercantile.—Chartered: Nomi Falls Store Co., with capital of \$20,000, by S. Bryant, W. F. Bryant and others.

Rockingham—Electric-light Plant.—Electric-light plant of 25,000 horse-power will be installed. Alex. Page is said to be interested.

Shelby—Publishing.—Chartered: Star Publishing Co., with capital of \$6000, to continue publication of the Cleveland Star, by Clyde R. Heey and others.

Shelby—Woodworking Factory.—H. H. McBrayer will install machinery for manufacturing shingles, laths, spokes, picker-sticks, etc.

Webster—Mining.—Tuckaseegee Mining Co. has been incorporated for mining mica and all kinds of minerals, with capital of \$25,000, by A. B. Allison, J. L. Boyles of Webster and Jas. J. Hooker of Dillsboro.

Weldon—Cotton Mill.—J. T. Evans and J. Bradbury, reported last week as proposing to organize company for the erection of a cotton factory, have not completed arrangements. They are seeking capital now, and propose manufacturing yarns. Site and buildings suitable have been secured.

SOUTH CAROLINA.

Bishopville—Mercantile.—Lee County Grange Co. has been chartered, with capital of \$5000, by L. A. Moore and others.

Bluffton—Lime Works.—Bluffton Lime Co., reported recently as incorporated, has small plant established for manufacture of lime from oyster shells, consisting of one 75-barrel kiln and warehouse 30x45 feet. Company may later on install crushing plant. For further particulars address G. S. Gullford, president and engineer in charge.

Carlisle—Supply Company.—Mutual Supply Co. has been incorporated, with capital of \$5000, by W. E. Hatchford and others.

Clio—Cottonseed-oil Mill.—Company is being organized, with capital of \$45,000, for erection of cottonseed-oil mill. Names of interested parties will be announced later.

Clio—Novelty Works.—Clio Novelty Works is enlarging building and installing additional machinery.

Columbia—Cotton Mill.—Keenan Yarn Mill, reported last week as incorporated with \$60,000 capital, will manufacture waste yarns. Contract for mule spindles and other textile machinery has been awarded. Main building will be of brick, two stories high, 50x170 feet and 40x50 feet. W. J. Keenan is president.

Columbia—Bottling Works.—Columbia Coca-Cola Bottling Works has been incorporated, with capital of \$3000, by H. D. and J. K. Crosswell.

Darlington—Cottonseed-oil Mill.—Independent Cottonseed Oil Co. will improve plant.

Dillon—Mercantile.—Chartered: Brown-Westbrook Company, with capital of \$5000, by J. S. Westbrook and others.

Georgetown—Lumber Company.—Atlantic Coast Lumber Co. will replace boiler lately damaged by explosion.

Marion—Iron Works.—Marion Iron Works will purchase and install rotary bevel shears and boring mill sixty to seventy-two inches.

TENNESSEE.

Bristol—Water-works.—City has purchased plant of the Bristol-Goodson Water Co., and will extend and enlarge same. Address The Mayor.

Campbell County—Coal Mines.—R. F. Winn, representing Big Stone Gap (Va.) parties, has purchased and will develop 6500 acres of coal land in Campbell county.

Chattanooga—Gas Generators, etc.—G. R. Lynch Manufacturing Co. has been incorporated, with capital of \$25,000, for manufacture of acetylene and other gas generators, lighting plants, sheet-metal work, etc. Company is a reorganization of the Aurora Acetylene Gas Co.

Chattanooga—Laundry.—B. G. Brown will establish steam laundry, as recently reported, which will be operated as the American Steam Laundry; building two stories, 25x125 feet. Geo. W. Rogers is engineer.

Dandridge—Mercantile.—Nichols-Moreland Company, with capital of \$4500, has been chartered by F. P. Moreland and others.

Humboldt—Cannery.—C. A. Nagle of Harford county, Maryland, will erect cannery at Humboldt.

Liberty—Hoop and Stave Factory and Planing Mill.—Will A. Vick will erect hoop and stave mill and planing mill.

Memphis—Electric Supply Company.—C. H. Harvey of Knoxville, Tenn.; H. H. Carson of

Nashville, Tenn., and W. M. Deming of Cincinnati, Ohio, have purchased the Memphis Electric Supply Co., and will erect new building and enlarge the business.

Memphis—Mercantile.—Shanks, Phillips & Co. has been incorporated, with capital of \$100,000, by H. B. Shanks and others.

Memphis—Overall Factory.—Patterson-Armstrong Manufacturing Co. has secured building 282 Second street, and will install equipment at once for manufacture of overalls with monthly capacity of 1000 dozen.

Murfreesboro—Cotton Gin.—J. T. Rather & Co. will rebuild cotton gin recently reported burned, installing a three 80-saw gin plant.*

Nashville—Heating System.—It is reported that Oliver M. Simmons of Indianapolis, Ind., manager of a large furnace and heating apparatus plant, is investigating Nashville as site for establishing plant for manufacturing heating apparatus.

Nashville—Carriage Company.—J. J. Anderson Carriage Co. has been incorporated, with capital of \$12,000, by J. J. Anderson, W. M. Cassey, A. S. Ogilvie and others.

Nashville—Mill and Mine Supplies, etc.—Southern Mill, Mine & Railway Supply Co., reported last week as incorporated with capital of \$25,000, will deal in all kinds of mill and mine supplies, etc. W. H. Fickling is president and general manager; F. H. Fuller, secretary-treasurer; B. F. Soper, vice-president.*

Nashville—Sprinkler System.—Prewitt-Spurr Manufacturing Co. is equipping its bucket factory with automatic fire-sprinkling system at cost of \$5000.

Tullahoma—Cannery.—A. & L. Myers of Indianapolis, Ind., are investigating with view to erecting cannery in Tullahoma.

TEXAS.

Bay City—Irrigation Plant.—Colorado Canal Co., W. F. Lewis, manager, will double capacity of its irrigation plant, increasing land under irrigation from 6000 to 10,000 acres.

Cameron—Rice Cultivation.—J. P. Walker of Jefferson county has leased and will cultivate in rice 300 acres of land.

Clairette—Mercantile.—Chartered: Clairette Mercantile Co., with capital of \$8000, by Henry Ellis, J. M. Reagor and others.

Clarendon—Colonization Company.—Panhandle Colonization Co. has been incorporated, with capital of \$10,000, by C. C. White, R. L. Moss, M. G. McFallon and others.

Clarendon—Mercantile.—Chartered: Martin-Bennett Company, with capital of \$24,000, by F. D. Martin and others.

Dallas—Woodworking Factory.—Boyle-Woolen Company has been incorporated, with capital of \$10,000, for manufacture of boxes, crates, tubs and other woodenware, by F. W. Boyle, T. G. Woolen and Luther Rees.

Dallas—Land Improvement.—Western Land & Improvement Co. has been incorporated, with capital of \$50,000, by E. P. Spears and M. J. Healey.

Dallas—Hotel Company.—Vallejo Hotel Co. has been incorporated, with capital of \$4000, by J. M. Carroll, R. M. Hoxsey, R. B. Achilles and others.

Detroit—Electric-light and Power Plant.—Detroit Electric Light & Power Co. has been incorporated for purpose of supplying light and power, by W. E. Whitener, W. T. Davis and J. R. Dillahunty.

El Paso—Machine Shops.—Harrell Stamp Mill Co. has been incorporated, as lately reported, with capital of \$50,000, for manufacturing mining machinery, including stamp mills, crushers, etc. J. J. Harrell is president and engineer in charge.*

El Paso—Foundry.—El Paso Foundry Co. has increased capital from \$100,000 to \$200,000.

Floresville—Mercantile.—W. H. Mitchell & Co., with capital of \$12,000, by W. H. Mitchell and others.

Hale Center—Land Improvement.—Hale Center Town Co. has been incorporated, with capital of \$5000, by R. A. Wharter, B. A. Hudgins, M. J. Ewalt and others.

Houston—Irrigation Plant.—C. W. Hahl has purchased from Jonathan Lane the Sheldon canal, pumping plant, implements and 5000 acres of land, and will at once increase capacity of pumping plant for irrigating 2500 additional acres.

Jacksonville—Drug Company.—Cherokee Drug Co., with capital of \$5000, has been incorporated by J. B. Roberts, W. U. Perkins and others.

Jewett—Lignite Mine.—A. J. Jasper of New Boston will open up lignite mine near Jewett.

Killeen—Elevator.—Polk & Young of the Killeen Roller Mills are erecting 25,000-bushel

steel elevator to be fitted with scourers, cleaners, separators, etc.

Liberty Hill—Mercantile.—Potts-Connell Company, with capital of \$17,000, by R. B. Potts and others.

Lockhart—Mercantile.—Swearingen-Beatty Company, with capital of \$10,000, has been incorporated by W. B. Swearingen and others.

* Markham—Rice Mill.—Markham Rice Milling Co., reported lately as incorporated with capital of \$50,000, will begin at once erection of rice mill with daily capacity of 550 barrels. Four-story warehouse will also be erected in connection.

Marshall—Coal and Oil Company.—Seeltem under Wakita, O. T.

Palo Pinto—Bridge.—Palo Pinto county has voted issue of \$40,000 of bonds for construction of two bridges across Brazos river, previously reported. Address County Clerk.

Smithville—Telephone System.—Smithville Telephone Co. will extend its line from Red Rock to Lockhart.

Stowell—Irrigation System.—George McManus, Beaumont, Texas, will, it is reported, construct irrigation system near Stowell, erecting a 27,000,000-gallon earthen reservoir.

Wichita Falls—Electric-light Plant.—Galveston parties have franchise for installation of electric-light and power plant at Wichita Falls. Address The Mayor.

Yorktown—Water-works.—City has issued \$7500 of bonds for construction of system of water-works. Address The Mayor.

Wichita Falls—Flour Mill.—Victor Milling Co. will rebuild at once its mill reported burned at cost of \$35,000.

VIRGINIA.

Blacksburg—Mercantile.—Chartered: A. Block Company, with authorized capital of \$25,000.

Bristol—Mercantile.—Chartered: Bacon-Hamilton Company, with capital of from \$20,000 to \$50,000, and W. R. Hamilton, president.

Bristol—Telephone System.—East Tennessee Telephone Co. has been incorporated, with capital of \$10,000, and J. C. Symms, president.

East View—Flour Mill.—H. F. Scott of Dulane, Va., will build flour mill at East View with capacity of thirty barrels. Item in last week's issue stated that mill would be erected at Dulane.

Glen Allen—Excelsior Company.—Old Dominion Excelsior Co. has been incorporated, with capital of from \$5000 to \$50,000, and W. C. Saunders, president; Franklin Stearns, secretary, and George B. Hutchins, treasurer.

Norfolk—Public Improvements.—City council has authorized issuance of \$200,000 of bonds for public improvements, which include street improvements, sewers, school-houses, etc.

Pocahontas—Coal-storage Plant and Tipple.—Pocahontas Collieries Co. has contracted for erection of large steel coal-storage plant and tipple.

Portsmouth—Pickle Factory.—Heinz Pickle Co. will install additional 100-horse-power boiler and make other improvements for doubling present capacity of its Portsmouth plant.

Richmond—Flour Mills.—Warner Moore & Co. will rebuild the Gallego Mills, reported burned at loss of \$270,000.

Suffolk—Peanut Factory.—Standard Peanut Co. has been incorporated, with capital of \$15,000, by Isaac A. Luke of Holland, Va.; C. A. Shoof of Suffolk, N. R. Withers of Suffolk and others for establishment of peanut factory at Suffolk; company already operates such a plant at Holland, Va.

Suffolk—Water Mains.—Suffolk, Portsmouth & Berkley Water Co. will lay new 20-inch mains through principal streets of Suffolk.

WEST VIRGINIA.

Keyser—Land Improvement.—Keyser Realty Improvement Co. has been incorporated, with capital of \$30,000, by F. H. Babb, A. E. Scherr of Keyser, S. H. Bowman of Philippi, W. Va., and others.

Lewisburg—Milling.—Lewisburg Milling & Electric Co. has been incorporated, with capital of \$50,000, by David A. Thayer, John Dwyer, James M. Preston and others.

Moundsville—Saw-mills.—Ohio Valley Lumber Co., reported lately as incorporated, with capital of \$25,000, has four saw-mills in operation with capacity of 40,000 feet of hardwood per day.

Parkersburg—Mantel and Tile Factory.—Parkersburg Mantel, Tile & Manufacturing Co. has been incorporated, with capital of \$25,000, for manufacture of mantels, grates,

tiling, etc., by C. A. Wade, B. D. Stout, J. L. Stout, W. L. Virgin and others.

Plymouth—Coal Mines.—Alpha Coal Mining Co. has been incorporated, with capital of \$100,000, by H. A. Jackson, Will Speakman, I. F. Smith, U. G. Vagan, all of Pittsburg, Pa.

Point Pleasant—Ice Factory.—Point Pleasant Ice Co. has been incorporated, with capital of \$25,000, for manufacture of ice, by M. W. Wildermuth of Pomeroy, R. G. Kennard of Point Pleasant and others.

Shinnstown—Light and Water Plant.—Shinnstown Light & Water Co. has been incorporated, with capital of \$10,000, for constructing and operating water-works, sewerage and electric-light plant, by F. M. Powell, L. J. Rowand, E. A. Short, John Lawe and others.

Wellsburg—Foundry and Machine Shop.—Company is being organized, with capital of \$10,000, for establishing foundry and machine shop. Address Henry Stengle, who is mentioned in connection with the enterprise.

Weston—Machine Shops.—Teepie & Johnson will remove machine shop from Wellsburg, W. Va., to Weston.

Wheeling—Mercantile.—M. Steinfeld Company has been chartered, with capital of \$25,000, by Edward Paddon and others.

INDIAN TERRITORY.

Bartlesville—Gas and Oil Company.—Kansas-Cherokee Oil & Gas Co. has been incorporated, with capital of \$60,000, by Charles D. Young, J. W. Tear, Ed. Michaels, J. O. Veigh and others.

Chickasha—Electric Plant.—Jas. W. Hockaday of Itasca, Texas, has bought the Chickasha electric-light plant.

OKLAHOMA TERRITORY.

Apache—Gin Company.—Apache Custom Gin Co. has been chartered, with capital of \$8000, by W. B. Edwards, C. W. Amspacher, I. H. Mallory, J. M. Snapp and others.

Guthrie—Real Estate.—Chartered: Olympia Park Co., with capital of \$30,000, by J. Alexander, J. E. Nicholson of San Francisco, Cal., and G. V. Pattison of Guthrie.

Guthrie—Supply Company.—New England Railway Supply Co. has been incorporated, with capital stock of \$1,000,000, by John D. and Chas. J. Betts of Chicago, Ill.; G. V. Pattison of Guthrie and others.

Lawton—Ice Plant.—Lawton Ice Co. will erect ice and cold-storage plant, investing about \$35,000; capacity of ice plant will be thirty-five tons and refrigerating capacity seventy-five tons; storage building will be 50x100 feet, and ice-plant building 75x100 feet.

Lawton—Mining.—Kiamichi Gulch Mining Co., 425 Avenue D, Lawton, O. T., has been incorporated, as recently reported, with capital stock of \$1,500,000; company has ten mining claims, and will install stamp mill and cyanide process to reduce the ore. J. E. Jarvis is president; Alvin Campbell, secretary; O. R. Burnham, treasurer. Address the secretary.*

Oklahoma City—Mercantile.—Chartered: Wooldredge & Jordan Co., with capital of \$5000, by Richard A. Wooldredge and others.

Owasso—Coal Mines.—Owasso Coal & Mining Co. has been incorporated, with capital of \$50,000, by J. T. Barnes of Owasso, J. P. Gomez of Tulsa and G. V. Pattison of Guthrie.

Shawnee—Water-works.—City has approved plans and specifications for new water-works, for which \$125,000 of bonds was recently reported as having been issued; plans call for sixteen miles of new pipe, two new pumps of 2,000,000 gallons per day capacity each, settling basin capable of handling 5,000,000 gallons of water per day, etc.; C. J. Bocher, mayor.

Temple—Telephone System.—Temple Telephone Co. has been incorporated, with capital of \$5000, by L. I. Hensley, D. S. Tandy and B. V. Loosemore.

Wakita—Coal and Oil Company.—Texas Southern Coal & Oil Co. of Wakita and Marshall, Texas, has been incorporated, with capital of \$100,000, by J. B. Shelbourne, J. A. Ramsay, C. E. Wetmore of Wakita and others.

BURNED.

Baltimore, Md.—Maryland Macaroni Works damaged to extent of \$10,000.

Beaumont, Texas.—McFadden, Wiess & Kyle Rice Co.'s toolhouse; loss estimated at \$10,000.

Fitzgerald, Ga.—Marion Dickson's cotton gin.

Frankfort, Ky.—J. E. Miles Milling Co.'s elevator, valued at \$100,000.

Franklin, Va.—Camp Manufacturing Co.'s

lumber mill damaged to extent of about \$80,000.

Cedar Point, N. C.—L. B. Bennett's cotton gin; loss \$2000.

Crisp, Texas.—Feagin & Sparkman's gin; loss about \$3000.

Huntsville, Ala.—Swift Packing Co.'s packing plant and warehouse; estimated loss \$10,000.

Jonesboro, Ark.—Jonesboro Bending Co.'s plant; loss estimated at \$40,000.

Mt. Calm, Texas.—E. T. Nickels' flour mill; loss about \$3000.

Nashville, Tenn.—Southern Box & Lumber Co.'s plant; estimated loss \$35,000.

Plaquemine, La.—Amedee Levert's sugar-house; estimated loss \$55,000.

Pottsville, Ark.—Wynne Gin Co.'s cotton gin.

Richmond, Va.—Gallego Mills, Warner Moore & Co., proprietors; loss estimated at \$20,000.

Richmond, Va.—James W. Carr's iron and brass foundry; estimated loss \$35,000.

Scurry, Texas.—Tom Coleman's cotton gin; loss \$3000.

Senola, Ga.—Cotton warehouse of Couch & Co., valued at \$50,000.

Staunton, Va.—Augusta Springs Tannery damaged to extent of \$30,000.

Temple, Texas.—Greathouse Grain Co.'s warehouse, valued at \$3000.

Washington, Ga.—Wilkes Cotton Co.'s cotton gin, valued at \$12,000.

West Point, Ga.—Chattahoochee Valley Railroad Co.'s roundhouse and machine shops; loss about \$4000.

BUILDING NOTES.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Albany, Texas.—Church.—Baptist church will erect new edifice; Rev. T. J. Talley, pastor.

Augusta, Ga.—School.—T. O. Brown has contract for erecting the new school building to be operated by the Augusta Free School Corporation; cost \$5000. Architect Goodrich prepared the plans.

Brownwood, Texas.—Library.—P. A. Harris of Waco, Texas, has contract for erecting proposed Carnegie Library at Brownwood.

Charleston, S. C.—Hotel.—John C. Calhoun, E. R. Mitchell and F. P. Warren of New York are interested in the erection of \$400,000 hotel at Charleston.

Chattanooga, Tenn.—Centenary Methodist Church contemplates enlarging its present edifice or building an entirely new structure. Address The Pastor.

Columbia, Tenn.—Courthouse.—J. E. Carpenter, architect, of New York, has completed plans for Maury county's proposed \$100,000 courthouse, previously reported.

Easton, Md.—Bank Building.—Talbot Savings Bank will erect two-story stone and brick building to have gas, electric fixtures, steam heat, etc.

Fayetteville, Ark.—Church.—Cumberland Presbyterian Church, Rev. R. Thomsen, pastor, will erect new edifice, as lately reported, at cost of \$12,000. Charles Henry & Son of Akron, Ohio, are the architects.*

Florence, Ala.—Business Building.—N. P. Morrison will erect two-story building, of brick, 25x35 feet.

Fort Monroe, Va.—Hospital.—C. P. Townsley, quartermaster, Fort Monroe, will receive proposals in triplicate until January 26 for construction, plumbing, heating and electric wiring an addition to hospital. Information furnished on application. Usual rights reserved.

Glyndon, Md.—Station.—Western Maryland Railroad Co. will rebuild at once the \$12,000 station lately burned at Glyndon; F. S. Landstreet, general manager, Baltimore, Md.

Jacksonville, Fla.—Postoffice and Custom-house.—Contract for erecting proposed post-office and custom-house building has been awarded Cramp & Co. of Philadelphia, Pa., at \$297,500.

Kansas City, Mo.—Building.—S. A. Moore Storage & Transfer Co. has had plans made by Urban Construction Co., 201 Bank of Commerce Building, for two-story barn 80x130 feet; cost \$7500.

Lenoir, N. C.—Courthouse.—Bids will be received until first Monday in February for erection of county courthouse for Caldwell county. Plans on file at county clerk's office at Lenoir, also at office of Wheeler & Runge,

architects, Charlotte, N. C. Bond will be required and usual rights reserved.

Little Rock, Ark.—Auditorium.—Little Rock Auditorium Co. has been incorporated, with capital of \$60,000. H. L. Remmel is president; R. E. Wait, vice-president; Herman Kahn, treasurer, and Geo. R. Brown, secretary.

Live Oak, Fla.—Courthouse.—R. Hugger & Bro., 197 Martha street, Montgomery, Ala., have contract (as lately reported) for erecting proposed courthouse at Live Oak. Benjamin B. Smith of Montgomery prepared the plans, which call for two-story stone building 82x96 feet; cost \$50,000.

Louisville, Ky.—Apartment-house.—The Realty Improvement & Securities Co. has been organized, with capital of \$10,000, and privilege of increasing to \$500,000, for the purpose of erecting apartment-houses in Louisville, one of which will be built at once at cost of \$150,000. Walter S. Adams is president; Alonzo Adams, vice-president, and Charles D. Adams, secretary-treasurer.

Marion, Ky.—Residence.—E. J. Hayward has had plans made by Harris & Shopbell, Evansville, Ind., for erection of \$12,000 residence with all modern conveniences, including electric fixtures, hot-water heat, etc. Bids for erection will be asked about first of March.

Memphis, Tenn.—Business Building.—Orgill Bros. & Co. will erect business building.

Nashville, Tenn.—Dormitory.—Board of trustees of Walden University has decided upon plans for erecting \$30,000 building to replace dormitory recently burned.

New Orleans, La.—Theater.—Stine Bros. have completed plans and arrangements will be made at once for erection of the proposed new Greenwall Theater. Building will be of steel fireproof construction.

Norfolk, Va.—Firehouse.—Edward Hart has contract at \$177 for erecting the proposed fire station on East Main street.

Pensacola, Fla.—Dwelling.—J. R. Sanders has awarded contract for erection of \$20,000 residence.

Richmond, Va.—Office Building.—Imperial Tobacco Co. has had plans made and will award contract at once for erection of three-story brick and stone office building.

Smithville, Texas.—Roundhouse.—Missouri, Kansas & Texas Railroad will build roundhouse at Smithville; A. A. Allen, general manager, St. Louis, Mo.

St. Louis, Mo.—Hotel.—J. Hal Lynch, Koken Building, has plans for 500-room hotel.

St. Louis, Mo.—Buildings.—Henry Kassing will erect two-story brick building to cost \$6000; Gustav Mill, double two-story brick to cost \$5000.

Stratford, Texas.—School.—City has selected plans for erection of new school building. Address The Mayor.

Tampa, Fla.—Business Building.—W. H. Steacy will erect two-story brick building to cost \$10,000.

Terrell, Texas.—Church.—Baptist congregation will erect brick church to cost \$10,000. L. W. Wells, civil engineer, will superintend work of construction.

Tyler, Texas.—Library.—Bids will be opened January 20 at office of A. E. Judge, vice-president of board of directors, for erection of library building. Each bid must be accompanied by certified check for 2 per cent. of amount of bid. Plans and specifications may be seen at office of architects, Patton & Miller, 153 La Salle street, Chicago, Ill., or at office of secretary in Tyler. Library board reserves usual rights; J. B. Mayfield, chairman of plans and specifications committee.

Union Springs, Ala.—School.—Benj. B. Smith, Montgomery, Ala., is preparing plans for two-story school building of stone and marble, with all modern improvements, to be erected at Union Springs at cost of \$25,000.

Warrensburg, Mo.—Almshouse.—Johnson county has adopted plans of G. E. McDonald of Kansas City, Mo., for its new \$20,000 almshouse. Bids for contract will be advertised.

Washington, D. C.—Dwellings.—John Sherman will erect four houses at Cleveland Park.

RAILROAD CONSTRUCTION.

Railways.

Blarney, Ga.—G. T. Melton is reported to be president, and J. E. Melton, secretary, of the recently-chartered Alabama Transit Co., which proposes to build a line from Reidsville, Ga., to a point to be called Satilla on the Satilla river, about forty-five miles.

Brunswick, Ga.—The Brunswick & Birmingham Railroad will, it is reported, soon begin an extension from Irwinville to

Worth, Ga., twenty miles. L. W. Roberts is chief engineer.

Carnesville, Ga.—The Georgia Traction Co. has been chartered to build a line from Carnesville, Franklin county, through Madison and Clarke counties to Athens, Ga., thirty-nine miles. The incorporators are E. H. Van Wey and W. F. Brown of Toledo, Ohio; J. R. Dortch, B. F. Aderhold, W. R. Little and others of Carnesville, Ga.

Charleston, W. Va.—Mr. C. C. Watts, president of the Coal River & Western Railway, writes the Manufacturers' Record that the company has under construction a five-mile extension from the Forks of Coal to Fork Creek, on Big Coal river.

Charlotte, Tenn.—The Tennessee Industrial Railroad Co. of this, Dickson county, has been incorporated to build a line from the mouth of Harpeth to Clifton, Wayne county, about eighty miles. The incorporators are J. D. Parrish, W. M. Shipman, W. C. Thorbus, S. T. Larkins and W. L. Cook.

Chicago, Ill.—G. K. Weaner of Chicago is reported to be interested in a plan to build a short railroad in Texas. He has thus far declined to announce his plans.

Chicago, Ill.—Reported that the Atchison, Topeka & Santa Fe Railway will make general yard improvements along its line next year. James Dun is chief engineer.

Cincinnati, Ohio.—The Alabama Great Southern Railroad is reported to have purchased at Birmingham, Ala., for yard purposes the old Mary Pratt furnace property of thirty-three acres. G. B. Nicholson is chief engineer at Cincinnati.

Cleveland, Ohio.—Henry L. Martin of Cleveland is reported to be securing rights of way for a new railroad from Hillsboro, Ky., to Salt Lake, Ky., about twenty-eight miles. This would connect the Cincinnati & Licking River and the Licking River railroads. Cincinnati capital is reported behind the venture.

Cleveland, Ohio.—Reported that Myron T. Herrick, Senator Mark A. Hanna and other capitalists are planning an interurban electric railroad from Milwaukee, Wis., via Nashville, Tenn., to New Orleans, La. Louisville, Ky., will, it is said, also be on the line.

Corpus Christi, Texas.—The St. Louis, Brownsville & Mexico Railway is now reported to have laid fifteen miles of track.

Cumberland, Md.—Progress is being pushed on the Western Maryland's Railroad (Wabash system) between Cumberland and Cherry Run, and it is stated that work will be under way on every section by January 15.

Dallas, Texas.—Reported that the Denison, Bonham & New Orleans Railroad Co. (M., K. & T.) will build an extension from a point at or near Bonham to Paris, and perhaps beyond. J. W. Petheram is chief engineer at Dallas.

Dallas, Texas.—The Livingston & South-eastern Railroad, recently chartered, is reported to have begun construction near Livingston. W. H. Knox and others, all of Dallas, are the incorporators.

Dallas, Texas.—The Grigsby Construction Co. of Dallas is reported to have the contract for the Missouri, Kansas & Texas extension from Georgetown to Austin, Texas, and to have opened an office at Georgetown, with T. Marshall as manager, to begin work immediately.

Durham, N. C.—President R. H. Wright of the Durham Traction Co. writes the Manufacturers' Record that the company has not definitely decided to build the extension to Chapel Hill. A survey is now being made preparatory to making estimates.

Fort Smith, Ark.—The Fort Smith & Northern Railroad has been organized to build from Fort Smith through Franklin, Boone and Newton counties to zinc fields, about 100 miles. George Sengel is president; W. H. Robins, secretary, and Ed. Sengel, treasurer. The proposed line is to follow the Buffalo valley.

Frostburg, Md.—Surveys are reported made and rights of way obtained for the Westernport & Keyser Electric Railway Co.'s proposed line to connect those points, a distance of six miles. William Harvey of Frostburg is chief engineer.

Galveston, Texas.—Reported that the Gulf, Colorado & Santa Fe will extend its Saratoga branch to Batson Prairie and to Sour Lake. C. F. W. Felt is chief engineer.

Greensboro, N. C.—The Southern Railway's reported plan for a detour freight line around Greensboro is to build from the two-mile post on the North Carolina Railroad, east of Greensboro, southwest to Pomona.

Hagerstown, Md.—The Hagerstown Electric Co. is reported to be negotiating for the turnpike from Boonsboro to Sharpsburg for

the purpose of extending its line between those places. The electric railway projected for Martinsburg, W. Va., will, it is said, be extended to Sharpsburg to connect with the Hagerstown line so as to make eventually a route from the Potomac river as far as Harrisburg, Pa.

Hampton, Va.—H. P. Barney of Hampton and Newport News is reported to be securing rights of way for a steam railway between Newport News and Yorktown, Va., twenty miles.

Houston, Texas.—Reported that the Southern Pacific will extend the Arnaudville branch in Louisiana to Opelousas. E. B. Cushing is engineer maintenance of way at Houston.

Humboldt, Tenn.—Plans are reported under consideration for building an electric railway from Lexington to Humboldt, about thirty miles.

Jennings, La.—Three cars of steel rails have been received to begin tracklaying on the Jennings & Northern Railroad.

Kansas City, Mo.—Rights of way reported secured for the Stockton & Southeastern Railroad, a proposed line from Eldorado Springs to Stockton, Mo., nineteen miles. Contracts may be let about February 1. W. H. Wood is chief engineer, and George F. Wolfe, president, 303 Temple Block, Kansas City.

Kansas City, Mo.—Reported that the Kenebeck Construction Co. of Kansas City will build a railroad from Joplin, Mo., to either Fort Gibson or Fall City, I. T.

Louisville, Ky.—The Louisville & Nashville Railroad is reported to be surveying from Elizabethtown to Lebanon Junction, preparatory to building second track from Elizabethtown to Louisville. It is also reported that the L. & N. will lower the grade at Muldraugh's Hill. R. Montfort is chief engineer.

Madisonville, Ky.—The Madisonville Traction Co. has amended its charter so as to permit it to build a branch from Madisonville to Earlinton or to Nortonville, twelve miles. Joseph M. Huffaker is president.

Maryville, Tenn.—A contract is reported let to Melvin Spradling for three more miles of grade on the Southern Railway's proposed North Carolina line along the Little Tennessee river. It starts at Red Bluff, Tenn.

Mayfield, Ky.—The building of an electric railway is being discussed, the plan being to construct a line from Paducah via Mayfield to Cairo.

Memphis, Tenn.—The Memphis, Indianola & Gulf Railroad Co. has been incorporated to build a line from Memphis, Tenn., to Gulfport, Miss., about 350 miles, via Indianola and Jackson, Miss. The incorporators are J. W. Buchanan, Memphis; W. T. Pitts, A. B. Smith, C. F. Klingman, O. C. Stubblefield, W. F. Heard and J. H. Baker, Indianola; J. B. Partee and J. B. Covington, Belen; W. C. Ringold, Lynn; G. W. Faison, Faison; Fred Gritman, Drew; J. A. Crawford, Heathman; F. M. Andrews and R. C. Garnett, Woodburn. The Frisco is said to be interested.

Muskogee, I. T.—The Muskogee Southern Railway is reported to have laid its track as far as Russell, I. T.

Nashville, Tenn.—Reported that the Westinghouse Electric & Manufacturing Co. of New York is preparing plans and estimates for the proposed electric railway from Nashville to Lewisburg, Tenn., and Huntsville, Alabama.

New Orleans, La.—President L. S. Berg of the New Orleans Terminal Co. has notified the city council that construction has begun on the terminal track to be used by the Frisco and Southern railways jointly, and it is expected that sufficient line will be completed by July 1 to put it in service.

New York, N. Y.—The Interstate Securities Co., 5 Nassau street, has been incorporated to finance and develop railroad and other enterprises. The incorporators are Alexander McDonald, a Standard Oil capitalist; R. W. Jones, Jr., president of the Oriental Bank of New York; Charles E. Levy, a New York capitalist, and Henry C. Quibby, counsel for the company. They, with the following, comprise the board of directors: Wallace B. Rogers, president of the Interstate Trust & Banking Co. of New Orleans, La.; Isaac H. Kemper of Galveston, Texas; Robert H. Sherwood, formerly of Philadelphia, now of New York; W. D. Stratton, president of the Mobile, Jackson & Kansas City Railroad; Edmund K. Stallo of New York, formerly of Cincinnati; Henry E. Hutchinson, president of the Brooklyn Bank of Brooklyn, and Bird M. Robinson, Frank M. Stratton, John F. Vallant, James F. Egan and Daniel E. Ely of New York.

Norfolk, Va.—Reported that funds for

building and equipping the proposed electric railway from Hampton to Jamestown have been secured. O. D. Jackson of Norfolk owns the franchise.

Paducah, Ky.—The White Oaks Cannel Coal Co., of which W. B. Smith of Paducah is president, is reported to have completed a survey for a railroad from Cannel City, Morgan county, to coal fields near Caney. Shepherd Greene of Nashville, Tenn., is secretary.

Palentine, Texas.—The International & Great Northern Railroad will, it is reported, build a spur five miles west of Jewett, Texas. J. D. Traummell is chief engineer.

San Antonio, Texas.—President C. R. Hudson of the San Antonio & Aransas Pass Railway is quoted as saying that the contract for the second section of fifty miles on the Brownsville extension has been let to J. P. Nelson, who has the contract on the first section, now nearing completion.

Seranton, Miss.—An extension of the electric railway from Moss Point has been built to the L. N. Dantzer Lumber Co.'s saw-mill at Seranton, making a through line from Seranton to the bay terminal at Pascagoula.

Shreveport, La.—The Louisiana Railway & Navigation Co. (formerly the Shreveport & Red River Valley Railway) is reported to be surveying for an extension from Baton Rouge to New Orleans. The company is now building to close up from Naples (Water Valley) via Port Hudson to Baton Rouge.

South McAlester, I. T.—The Wichita & Southern Railway Co. has, it is reported, decided to build its line from Wichita, Kan., to South McAlester, the International Trust Co. of Boston financing the project. W. H. Arnold of South McAlester, W. M. Wambaugh, 703 Missouri Trust Building, St. Louis, and others are interested. The line is chartered to build from Wichita, Kan., to Paris, Texas, via South McAlester, with a branch from a point in the Cherokee Nation along the Arkansas river to Fort Smith, Ark.; total length about 400 miles.

Spartanburg, S. C.—The Southern Railway has put in use its second track between Spartanburg and Spartanburg Junction.

St. Louis, Mo.—The Wabash Railroad will, it is reported, build large track facilities for handling business to the World's Fair grounds. W. S. Newhall is chief engineer.

St. Louis, Mo.—Mr. C. Cuniff, president of the projected Joplin, Neosho & Pierce City Interurban Railroad, 822 Chestnut street, writes the Manufacturers' Record that the company proposes to build an electric railway for freight and passengers, forming a loop line from Joplin, Mo., running east via Sarexio, Stott City, Pierce City, Pioneer, Newtonia, Granby, Neosho, Spurgeon and Grand Falls back to Joplin, about 100 miles. The survey is half completed; date of construction not yet fixed, but work will be pushed as rapidly as possible.

Summit, Miss.—Dr. H. K. Butler writes the Manufacturers' Record that the proposed electric railway to connect Summit, Fernwood, McComb City and Magnolia will be about twelve miles long. An engineer is to be selected soon.

Sweetwater, Texas.—The Kansas City Mexico & Orient Railway will, it is reported, soon begin tracklaying from Sweetwater to the Red river, and it is stated that over 300 miles of grade have been completed, nearly to San Angelo, Texas.

Tusculum, Ala.—It is reported that the Illinois Central has not abandoned its plan to build an extension to Birmingham from Jackson, Tenn., although surveying has ceased; also that a large number of ties for the proposed line are stacked on the banks of the Tennessee river below and near Sheffield, Ala.

Wheeling, W. Va.—William Gutman, one of the organizers of the proposed Wheeling, West Liberty & Belt Line Railway Co., is reported as saying that application for a franchise will be made immediately. The line proposed is from Greggsville to Wheeling.

Wilmington, N. C.—Reported that the Atlantic Coast Line may build an extension from Nashville, N. C., to Castalia, N. C., about twelve miles. E. B. Pleasants is chief engineer.

Zimmerman, La.—Mr. J. A. Bentley, president and general manager of the Zimmerman, Leesville & Southwestern Railway, informs the Manufacturers' Record that the company has completed its extension from Edwards to Mora, five miles.

Street Railways.

Beaumont, Texas.—The electric street-car company will, it is reported, build a new loop line.

Dallas, Texas.—The Electric Railway Co.

will, it is reported, build an extension via Oak Cliff to West Dallas.

Knoxville, Tenn.—The Fountain Head Railroad will, it is reported, build an extension.

Nashville, Tenn.—The Nashville Railway & Light Co. will, it is reported, make a number of track improvements immediately after the Christmas holidays.

Shawnee, O. T.—Materials have arrived for the construction of the proposed electric railway in Shawnee and to Tecumseh.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Barrel Machinery.—J. A. Clark & Co., Steinhatchee, Fla., want barrel material and machinery.

Boiler.—See "Engine."

Boilers.—See "Engines."

Brass Workers.—See "Novelties."

Bridge.—Wanted.—Second-hand standard-gauge single-track bridge, about 60-foot span, to carry loaded cars, each 30,000 pounds gross, with good factor of safety. Girder type bridge preferred. Send full description, weight, blueprints or tracings, etc., and price delivered f. o. b. Asheville, N. C. Address J. S. Bailey & Co., Asheville, Ga.

Bridge Construction.—Contract will be let at public outcry January 23 at Hot Springs, Ark., for construction of highway bridge over Ouachita river in Garland county, 628 feet long by 16 feet clear width of roadway, in strict accordance with plans and specifications on file in office of S. A. Buchanan, county clerk. Certified check for \$2000 is required. Bond required and usual rights reserved.

Bridge Construction.—T. Blake Dupree, county judge, Houston, Texas, will open bids February 10 for construction of steel highway bridge across Buffalo bayou. Bidders to submit complete plans and strain sheets for both swing and span type and a bascule type; bids to be upon entire structure, including all foundations, etc. Each bid must be accompanied by certified check for \$500. Cross-section of the opening and further information can be had of John W. Maxcy, 204 Binz Building, Houston, Texas.

Building Material.—Rev. R. Thomsen, Fayetteville, Ark., wants prices on pressed brick in the various colors, slate or tile roofing, stained-glass windows, etc.

Celling.—Sealed bids will be received by board of supervisors of Coahoma county, Friars Point, Miss., until January 4 for celling the county jail at Clarksdale with steel sheeting, according to specifications to be furnished by M. J. Bouldin, clerk of board. Contractors desiring to bid are requested to go to Clarksdale, inspect jail, take measurements and leave bid with M. J. Bouldin. Usual rights reserved.

Conveying Equipment.—S. Newbrick, Mobile, Ala., wants names of manufacturers of machinery for unloading vessels laden with coal.

Cotton Gin.—J. T. Rather & Co., Murfreesboro, Tenn., want prices on three 80-saw gin plant.

Cotton-gin Machinery.—F. H. Lummus Sons Co., Columbus, Ga., is in the market for a machine to draw the hair or bristles into the wooden ribs that form the brush of cotton gins.

Crushing Equipment.—E. J. Hunter, P. O. Box 252, Lexington, Ky., wants second-hand rock-crushing outfit, with or without traction engine, Lexington, Cincinnati or Chattanooga delivery; also wants several second-hand standard-gauge dump cars, center dump, for ballasting.

Dump Cars.—See "Crushing Equipment."

Earthwork Construction.—See "Levee Construction, etc."

Electric-light Plant.—W. A. Jones, commissioner Indian affairs, Department of the Interior, Washington, D. C., will open bids January 21 for furnishing and delivering the

necessary materials and labor required to construct and complete an electric-lighting system at the Cherokee School, N. C., in strict accordance with plans, specifications and instructions to bidders, which may be examined at the office of Indian affairs, offices of the Daily Tribune, Knoxville, Tenn.; The Gazette, Asheville, N. C.; Register, Asheville, N. C.; Builders' and Traders' Exchanges at Omaha, Neb.; Milwaukee, Wis., and St. Paul, Minn.; Northwestern Manufacturers' Association, St. Paul, Minn.; United States Indian warehouses, 205 S. Canal street, Chicago, Ill.; 119 Wooster street, New York, N. Y., and 815 Howard street, Omaha, Neb., and at the school. For further information apply to the superintendent Indian School, Cherokee, N. C.

Electric-lighting System.—Archibald W. Butt, quartermaster, U. S. A., depot quartermaster's office, Washington, D. C., will receive proposals in triplicate until January 22 for constructing electric-lighting system at Fort Myers, Va., at the signal corps post. Information furnished on application. United States reserves usual rights.

Engine.—Geo. W. Adams, care of the Forestry Manufacturing Co., Ellsworth, Ga., wants second-hand portable boiler and engine of from ten to eighteen horse-power.

Engines.—Anthracite Machinery & Supply Co., Allentown, Pa., wants to buy two 250-horse-power water-tube boilers, horizontal, with stack, all complete; also two 200-horse-power automatic engines, direct and belted type, complete; also one heater, 300 to 500 horse-power, either new or second-hand; give full description.

Extract Plant.—C. C. Thompson, Staunton, Va., wants to buy equipment for a bark and chestnut wood extract plant.

Grist Mill.—J. Walter Pelletier, Stella, N. C., wants catalogues of second-hand grist mills.

Heater.—See "Engines."

Laundry Equipment.—James Stevenson, P. O. Box 55, Albany, Ga., wants catalogues and information of steam-laundry equipment.

Launch.—R. B. Dunbar, R. F. D., No. 3, Augusta, Ga., is in market for gasoline or naphtha launch or tug.

Laundry Machinery.—Hamil & Fain, Albany, Ga., want to correspond with manufacturers of laundry machinery.

Levee Construction, etc.—Chas. S. Bromwell, captain of engineers, United States engineer office, 3232 Prytanian street, New Orleans, La., will open bids January 9 for constructing about 203,500 cubic yards of earthwork, enlarging levees in the Pontchartrain levee district. Information furnished on application.

Life-saving Station.—S. I. Kimball, general superintendent United States Life Saving Service, Treasury Department, Washington, D. C., will open bids January 5 for construction of life-saving station at Little Kinakeet, N. C. Specifications and drawings, forms of proposal, etc., can be obtained upon application to superintendents of construction of life-saving stations, 17 State street, New York city; to superintendent of the seventh life-saving district, Shawboro, N. C., or to above office.

Locks and Dams.—Chas. W. Bromwell, captain, engineers, United States engineer office, Vicksburg, Miss., will open bids January 22 for building locks and dams Nos. 4 and 6, Ouachita river, Arkansas and Louisiana. Information furnished on application.

Manufacturers.—Crown Mercantile Co., 23½ West Alabama street, Atlanta, Ga., wants to correspond with manufacturers of special lines suitable for large mail-order house.

Mill Supplies.—Knight & Wall Company, Tampa, Fla., wants catalogues, discount and freight rates to Tampa on mill supplies of all kinds.

Mine, Mill and Railway Supplies.—Southern Mill, Mine & Railway Supply Co., W. H. Fickling, president, Nashville, Tenn., is in market for general mill, mine and railway supplies and machinery, and wants catalogues and price-lists from manufacturers.

Mining Equipment.—See "Stamp Mill."

Novelties.—B. Johnson, Temple, Texas, wants names and addresses of parties manufacturing novelties in steel and brass wire and other very small articles, such as sewing-machine attachments, etc.

Paving.—T. Blake Dupree, county judge, Houston, Texas, will open bids January 13 for grading and construction of two miles, more or less, of pavement; paving to consist of six inches of good pit gravel and four inches of wearing surface of shell, to be built according to plans and specifications, which can be seen at office of J. W. Maxcy, 204 Binz Building, Houston, Texas, or at office of county clerk of Harris county. Each bid

must be accompanied by certified check for \$1000. Usual rights reserved.

Pipe.—Mansfield Gas Co., Mansfield, Ark., is in market for eight-inch pipe; will also want large amount of small pipe.

Railway Equipment.—Clark & Hines, 849 Equitable Building, Baltimore, Md., are in market for about fifty-six tons of 70-pound steel "T" relaying rail, to be A1 condition, delivered at Cumberland, Md., for immediate delivery.

Saw-mill.—J. Walter Pelletier, Stella, N. C., wants catalogues of second-hand saw-mills.

Saw-mill.—See "Woodworking Machinery."

Sewing-machine Attachments.—See "Novelties."

Stamp Mill, etc.—Kiamichi Gulch Mining Co., Alvin Campbell, secretary, 425 Avenue D, Lawton, O. T., wants stamp mill and cyanide process for reducing ore.

Steam and Electrical Machinery.—Harrell Stamp Mill Co., J. J. Harrell, president, El Paso, Texas, will want steam and electrical machinery.

Tank.—T. E. True, C. Q. M., San Antonio, Texas, will receive sealed proposals in triplicate until January 5 for erection of 50,000-gallon steel tank on 50-foot trestle at Fort Brown, Texas. Information furnished on application. Proposals for tank and trestle other than specified will be considered if accompanied by detailed drawings and specifications. United States reserves usual rights.

Water-works.—H. T. McCabe, Rosenberg, Texas, is in market for small water-works plant, water to be taken from deep well; will want to raise water by gasoline engine or electric power.

Wire Workers.—See "Novelties."

Woodworking Machinery.—W. L. Gouldin, Gouldin, Va., wants to buy planer and matcher.

Woodworking Machinery.—Battley Machinery Co., Rome, Ga., is in market for three-keg stove machine, bolter saw, cut-off saw, one croze and one jointer; also wants prices on keg-stave saws.

Woodworking Machinery.—Hiett Wagon Co., Jonesboro, Ark., wants 24-inch short-bed double-surface planer, skeln-setting machine, axle lathe, band saw, filling machine, etc.

Woodworking Machinery.—Aaron Graham, Christiansburg, Va., wants second-hand automatic gang lathe for making balusters, etc.

Woodworking Machinery.—John G. Duncan Co., 316-318 Jackson avenue, Knoxville, Tenn., wants addresses of manufacturers of veneer machines, shingle and cigar-box machines; are also in market for short-log saw-mill and a band saw.

TRADE LITERATURE.

John Rourke & Sons' Calendar.

A handsome calendar for the year 1904 has been issued by Messrs. John Rourke & Sons of Savannah, Ga. It is a beautiful specimen of color work, and will serve to remind those who receive it that the Rourke firm are iron and brass founders and machinists, blacksmiths and boiler-makers.

Pittsburg Meter Calendar.

That well-known meter manufacturer, the Pittsburg Meter Co., has issued a 1904 calendar. It is plain, but useful, presenting the dates in large figures, so that they can be seen from quite a distance. The company manufactures Keystone water meters, Westinghouse gas meters, proportional gas meters, pressure regulators and Acme dry gas meters at East Pittsburg, Pa.

For the Vest-pocket.

A handy memorandum booklet is issued by the Cypress Lumber Co. of Boston. It just fits the vest-pocket, and contains ample space for daily reminders to be jotted down. A number of pages are devoted to brief points of interest regarding legal questions, weights, and measures, data concerning the postal service and lending cities, etc. The Cypress Lumber Co. has large mills at Apalachicola, Fla., and manufactures tanks that are in great demand.

Small Electric-Lighting Plants.

It frequently happens that one wants to purchase a small electric-lighting plant and does not care to pay an engineer to tell just what is needed in order to install a plant in accordance with insurance rules. A leaflet has been issued in the interest of such a buyer. It is published by the Commercial Electric Co. of Indianapolis, Ind., manufacturer of complete equipments for electric lighting. The leaflet summarizes and gives the cost of 65, 100 and 150-light plants, together with brief yet complete specifications and a description of the bearings, armatures, commutators, fields, etc., required in

a modern outfit that will meet requirements. If you are interested, send for the company's Bulletin No. 30.

The Savogran Calendar.

The Savogran calendar for 1904 has made its appearance, and possesses the usual neat characteristics of the calendars issued by the manufacturer of the well-known cleaning compound. Savogran gives great satisfaction. It is economical, it deodorizes, and is harmless. It has been used by the United States government for fifteen years. The India Alkali Works of Boston manufactures Savogran.

Carey's Calendar.

A 1904 calendar issued by the Philip Carey Manufacturing Co. is now being distributed. It is extremely neat in appearance, and presents a colored reproduction of "Solid Comfort," a scene better appreciated when seen than when described. The Carey Company manufactures the well-known Carey 85 per cent. magnesia pipe covering, flexible cement roofing and other kindred products at its factories in Lockland, Ohio.

In Your Foundry.

"Everything you need in your foundry" is the watchword of a certain manufacturer whose business in foundry supplies is immense and extends to all parts of the foundry world. Probably those buyers who deal with that manufacturer will at once recognize that the S. Obermayer Company of Cincinnati, Chicago and Pittsburg is referred to. This company issues a monthly bulletin that will interest every man in the foundry business. This class is therefore invited to send for the December number.

A Household Necessity.

One of the most important household necessities of modern life is the refrigerator. These receptacles for the preservation of food have been perfected to a remarkable degree by our American manufacturers. Economy in the consumption of ice, absence of odors, dry cold and food-saving qualities may be mentioned as the prime requisites for a satisfactory refrigerator. These features are found combined, with others that will appeal to careful buyers, in the "Odorless" Refrigerator manufactured by the Keyser Manufacturing Co. of Chattanooga, Tenn. This company issues a new catalogue of its wares. Complete descriptions and illustrations are given of the various styles and types offered to dealers and users. Send for a copy if you are interested in refrigerators.

A Daily Reminder.

A daily reminder of important matters is being issued in vest-pocket form for the use of busy men. This booklet is superior to the usual memorandum book, and contains a quantity of valuable data which comes in handy from day to day, besides ample space for memoranda. A new feature is the handy pocket map and atlas of the United States, our island possessions, North and South America, showing the steamship, cable and telegraph lines. This innovation will be especially appreciated. The American Supply Co. of Providence, R. I., is distributing "A Daily Reminder" to its customers and friends, so that they may remember that the company is headquarters for textile-mill supplies, belting, hose, mill wire goods and other specialties in which it both manufactures and deals.

Pipe-Threading and Cutting Machinery.

Machinery for pipe-threading and cutting off is in a class for which the demand is steady nearly all the time. Manufacturers of this kind of equipment have been careful to design and construct such machines as will meet the requirements of all users, even the most exacting. An illustrated catalogue now being issued details improved pipe-threading and cutting-off machinery, hand-emery surfacers and roll cutters, etc., built by the Bignall & Keeler Manufacturing Co. of Edwardsville, Ill. This company also offers the Peerless adjusting mechanism for expanding dies. All the Bignall & Keeler tools are made strong and substantial in every part, for either hand or power, and their superior features have won for them a permanent place in the machine-tool market. Chucks, taps and other supplies are also included in the catalogue. Send for a copy.

Electric Traveling Cranes.

The great utility of electric traveling cranes has been fully demonstrated, and scarcely any large or important mill or shop is without one or more. The efficiency of

these electric cranes for lifting and carrying large and unwieldy pieces of machinery, big castings and other heavy weights makes them absolutely necessary in all but the smallest shop. The Alliance Machine Co. of Alliance, Ohio, has been very successful with its cranes, and claims to build equipment that is of the highest grade. This company issues a leaflet about its cranes, and gives list of nearly 150 cranes sold since September, 1902. The buyers include such representative industries as the Carnegie Steel Co., Colorado Fuel & Iron Co., Westinghouse Electric & Manufacturing Co., Alabama Steel & Wire Co., American Steel & Wire Co., Jones & Laughlin, American Steel & Wire Co., Lorain Steel Co. and many others of equal prominence.

The Burning Question.

How to protect woodwork from rain, sun, weather, and especially fire, at a minimum cost is a question which manufacturers have endeavored to answer. A permanent fire-retarding paint, therefore, finds a ready sale, and is in constant and large demand by owners of buildings of every character containing woodwork to be painted. The National fireproof paints, it is claimed, will absolutely and successfully prevent the flames from spreading; that is, the woodwork will char at the point of contact and confine the blaze to that point. A number of tests with this paint, all very severe ones, have been made and the superiority of the product demonstrated. An illustrated pamphlet entitled "The Burning Question" is being issued relative to the National paints, explaining their qualities and showing the tests made. The manufacturer is the National Fireproof Paint Corporation, with general offices at 87 Franklin street, Chicago, and agencies throughout the world.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office Manufacturers' Record,
Baltimore, Md., December 29.

During the past week at the Baltimore Stock Exchange there were only four business days, Christmas being extended into a double holiday and causing a cessation of trading from Thursday afternoon until Monday morning. Naturally, the period was dull, and the only feature of interest was a drop of three points in Seaboard Air Line common, caused, according to report, by the marketing of a large block of stock that had been held as security for a loan.

In the dealings United Railways common sold at 8½ and the incomes from 56½ to 57½, the 4s at 91¼ to 91½, and the Light & Power 4½s at 81. Consolidated Gas 6s were traded in at 111½. Seaboard common went from 13½ down to 10½, but reacted fractionally to 11¼; the preferred sold at 22½ and 22; the 4s from 72½ down to 71½; Cotton Duck at 1½ to 2; G. B. S. Brewing 1sts at 49½ and 49½.

Bank of Baltimore stock sold at 12½; Mercantile Trust at 130; United States Fidelity & Guaranty at 110, and Maryland Casualty at 45½.

Other securities traded in were as follows: Atlantic Coast Line Railroad, 105½ to 107½; Atlantic Coast Line Consolidated 4s, 93; Atlanta Street Railway 5s, 105½ and 105½; Georgia & Alabama Consolidated 5s, 107; Baltimore City 3½s, 1930, 111; do. 5s, 1916, 121½; Petersburg A 5s, 114; George's Creek, 87; Carolina Central 4s, 92½; Anacostia & Potomac 5s, 90; Virginia Century, 95½; Baltimore Fire Insurance, 22½; Home Fire Insurance, 15; Northern Central, 89 and 89½; Southern Railway, 21; Seaboard & Roanoke 6s, 108½; Norfolk Street Railway 5s, 107½; Newport News & Old Point 5s, 97½; Virginia Railway & Electrical Development 5s, 90; Western North Carolina 6s, 116½; Philadelphia Company common, 40½.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended
December 29, 1903.

Railroad Stocks.	Par.	Bid.	Asked.
Georgia Sou. & Fla. 2d Pref.	100	62	62
Atlanta Con. Street Railway	100	106½	106½
United Railways & Elec. Co.	50	84	84
Seaboard Railway Common	100	11	11½
Seaboard Railway Preferred	100	22	23
Atlantic Coast Line R. R.	100	107	107½
Atlantic Coast Line of Conn.	100	218	221½

Bank Stocks.	Par.	Bid.	Asked.
Citizens' National Bank	10	27	29½
Commercial & Far. Nat. Bank	100	31	45
Farmers & Mer. Nat. Bank	40	69	69½
German Bank	100	108	108
Mechanics' National Bank	100	108	108
National Bank of Baltimore	100	111	111
National Exchange Bank	100	194	205
National Howard Bank	10	11½	11½
National Marine Bank	30	36	36
National Mechanics' Bank	10	26	26
Second National Bank	100	194	200
Western National Bank	20	38½	40

Trust, Fidelity and Casualty Stocks.	Par.	Bid.	Asked.
American Bonding & Trust	50	50	65
Baltimore Trust & Guarantee	100	235	280
International Trust	100	87½	87½
Maryland Casualty	25	46	46½
Morvenite Trust & Deposit	50	125	125
Union Trust	50	50	50
U. S. Fidelity & Guaranty	100	110	113

Miscellaneous Stocks.	Par.	Bid.	Asked.
G. B. & S. Brewing Co.	100	7½	10
United Elec. L. & P. Pref.	50	41	41
Cotton Duck Voting Trust	100	13	13
Consolidation Coal	100	70	70
George's Creek Coal	100	84	88
Consolidated Gas	100	58	58½

Railroad Bonds.	Par.	Bid.	Asked.
Albany & Northern 1st 5s.	100	93½	93½
Atlantic Coast Line Con. 4s.	100	92½	93½
Char. Col. & Aug. 1st 5s, 1910.	100	113	113
Columbia & Greenville 1st 6s, 1916.	100	116½	116½
Georgia, Car. & North. 1st 5s, 1929.	100	108	108
Georgia South. & Fla. 1st 5s, 1945.	100	113	113
Georgia Pacific 1st 6s, 1922.	100	121½	123½
Petersburg, Class A 5s, 1926.	100	114	114
Richmond & Danville Gold 6s, 1915.	100	116	118
Savannah, Fla. & West. 5s, 1934.	100	108	108
Seaboard & Roanoke 6s, 1916.	100	108½	110
Virginia Midland 2d 6s, 1911.	100	111	111
Virginia Midland 4th 3-4-5s, 1921.	100	109	109
Virginia Midland 5th 5s, 1928.	100	111	111
West. North Carolina Con. 6s, 1914.	100	116	116½
West Virginia Central 1st 6s, 1911.	100	112	113
Wilmington & Wel. Gold 5s, 1935.	100	116½	116½
Charleston City Railway 5s, 1923.	100	105½	105½
Charleston Con. Electric 5s, 1909.	100	83½	90
Norfolk Street Railway 5s, 1944.	100	106½	107½
United Railways 1st 4s, 1949.	100	91½	92
United Railways Inc. 4s, 1949.	100	56½	57½
Seaboard 4s.	100	56½	57½
Seaboard 10-year 5s.	100	98½	97
Lexington Traction 1st 5s.	100	97	97
Georgia & Alabama Con. 5s.	100	107	107

Miscellaneous Bonds.	Par.	Bid.	Asked.
G. B. & S. Brewing 1st 3-4s.	100	49½	49½
G. B. & S. Brewing 2d Income.	100	28½	29½
United Elec. Light & Power 4½s.	100	81½	81½
Consolidated Gas 6s, 1910.	100	111	112
Consolidated Gas 5s, 1939.	100	112	112

SOUTHERN COTTON MILL STOCKS

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for
Week Ending December 28.

	Par.	Bid.	Asked.
Abbeville Cotton Mills (S. C.)	100	70	70
Aiken Mfg. Co. (S. C.)	100	90	90
Anderson Cotton Mills (S. C.)	100	120	125
Arkwright Mills (S. C.)	100	105	105
Augusta Factory (Ga.)	100	64	75
Avondale Mills (Ala.)	100	100	100
Belted Mills (Ala.)	100	100	100
Bibb Mfg. Co. (Ga.)	100	108½	108½
Buffalo Cotton Mills (S. C.)	100	190	190
Buffalo Cotton Mills (S. C.) Pfd.	100	98	98
Cabarrus Cotton Mills (N. C.)	100	122	122
Chiquola Mfg. Co. (S. C.)	100	95	95
Clifton Mfg. Co. (S. C.)	100	100	100
Clinton Cotton Mills (S. C.)	100	135	135
Courtenay Mfg. Co. (S. C.)	100	115	115
Columbia Mfg. Co. (Ga.)	100	95	95
Dallas Mfg. Co. (Ala.)	100	78	80
Darlington Mfg. Co. (S. C.)	100	90	90
Eagle & Phoenix Mills (Ga.)	100	108	108
Easley Cotton Mills (S. C.)	100	101	101
Enoree Mfg. Co. (S. C.)	100	75	85
Enterprise Mfg. Co. (Ga.)	100	80	80
Exposition Cotton Mills (Ga.)	100	150	150
Gaffney Mfg. Co. (S. C.)	100	87½	87½
Greenwood Cotton Mills (S. C.)	100	99	102
Grendel Mills (S. C.)	100	104	104
Henrietta Mills (N. C.)	100	200	200
King, John P., Mfg. Co. (Ga.)	100	88	88
Lancaster Cotton Mills (S. C.)	100	110	110
Lancaster Cot. Mills (S. C.) Pfd.	100	90	90
Langley Mfg. Co. (S. C.)	100	95	95
Laurens Cotton Mills (S. C.)	100	172½	172½
Lockhart Mills (S. C.)	100	102	102
Louise Mills (N. C.)	100	95	95
Louise Mills (N. C.) Pfd.	100	103	103
Mariboro Cotton Mills (S. C.)	100	90	100
Mills Mfg. Co. (S. C.)	100	100	100
Mills Mfg. Co. (S. C.) Pfd.	100	100	100
Monaghan Mills (S. C.)	100	105	105
Norberry Cotton Mills (S. C.)	100	120	120
Norris Cotton Mills (S. C.)	100	110	110
Odeh Mfg. Co. (N. C.)	100	90	90
Orangeburg Mfg. Co. (S. C.) Pfd.	100	100	100
Orr Cotton Mills (S. C.)	100	101	101
Pacolet Mfg. Co. (S. C.)	100	103	103
Pelzer Mfg. Co. (S. C.)	100	175	175
Piedmont Mfg. Co. (S. C.)	100	200	200
Poe, F. W., Mfg. Co. (S. C.)	100	137½	137½
Roanoke Mills (N. C.)	100	98½	102
Saxon Mills (S. C.)	100	109	103
Sibley Mfg. Co. (Ga.)	100	62	66
Southern Cotton Mills (N. C.)	100	90	90
Spartan Mills (S. C.)	100	135	145
Trion Mfg. Co. (Ga.)	100	125	150
Tuscan Mills (S. C.)	100	140	140
Union Cotton Mills (S. C.)	100	161	161
Union Cotton Mills (S. C.) Pfd.	100	103½	103½
Victor Mfg. Co. (S. C.)	100	135	135
Warren Mfg. Co. (S. C.)	100	102	102
Warren Mfg. Co. (S. C.) Pfd.	100	106	106
Washington Mills (Va.)	100	20	20
Washington Mills (Va.) Pfd.	100	95	95
Whitney Mfg. Co. (S. C.)	100	115	125
Wilmington Cot. Mills (N. C.) Pfd.	100	97	97
Woodruff Cotton Mills (S. C.)	100	95	95

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The General Indemnity Corporation of America at Richmond, Va., capital \$200,000, has been incorporated, with the following officers: S. Adolph Levy, New York, president; I. S. Friedburg, New York, secretary and treasurer; directors, the above and John R. Jeter, John A. Morton and Bernard Gibboney of Richmond.

The Bank of Southampton at Courtland, Va., has been chartered with capital from \$10,000 to \$50,000. The officers are: President, T. H. Birdsong; vice-president and cashier, E. Frank Story; directors, T. H. Birdsong, E. Frank Story, W. J. Seabell, Jr., E. Whitfield, Joseph B. Prince and B. F. McLemore.

The Title Insurance Co. has been incorporated at Mobile, Ala., with \$20,000 capital, by James K. Glennon, Orville F. Cawthon, R. H. Clarke of Mobile, Ala.; J. B. Lyon of Chicago, Ill., and L. L. Chapman of Colorado Springs, Col.

The First National Bank of Oxford, Ala., capital \$25,000, has been authorized to begin business.

The Union Trust Co. of Baltimore, which closed its doors on October 19, has been taken out of the hands of receiver and has resumed business after a receivership of only two months.

The Gastonia Banking Co. of Gastonia, N. C., has increased its capital from \$25,000 to \$100,000.

[For Additional Financial News, See Page 31.]

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**CONDENSED STATEMENT OF THE
First National Bank of Richmond, Va.**

NOV. 17TH, 1903.

RESOURCES.

Loans and Discounts	\$4,105,043 09
Overdrafts	147 74
Other Stocks and Bonds	85,531 16
Banking House and other Real Estate	67,103 13
U. S. Bonds at par	612,560 00
Premium on U. S. Bonds	0
Virginia Bonds to Secure U. S. Deposits	464,000 00
Cash and Due from Banks	862,280 21
	\$6,166,015 33

LIABILITIES.

Capital	\$600,000 00
Surplus and Profits, net	665,425 87
Reserved for Interest	9,134 89
Circulation	809,900 00
Deposits	3,784,054 66
U. S. Bond Account	142,500 00
Virginia Bond Account	464,000 00
	\$6,166,015 33

VIRGINIUS NEWTON, Pres. JNO. M. MILLER, JR., Cash.

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C. N. Evans, Cash. W. C. Wilkinson, Asst. Cash.

N. Y. Correspondent: SEABOARD NATIONAL BANK.

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WM. V. DAVIS, Secretary and Treasurer.

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References by permission:

Central Natl. Bank, Natl. Capital Bank and James L. Norris, Patent Solicitor, Washington, D. C.

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Surplus and Profits, \$1,550,660.12

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CHAS. D. FENHAGEN, Sec. and Treas.

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Executive Committee:

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Pres. National Bank of Port Deposit, Md.

SUMMERFIELD BALDWIN, of

Woodward, Baldwin & Co., Wholesale

Dry Goods Commission Merchants;

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The holder of these certificates, by giving sixty days' notice in writing, can obtain payment of principal on any interest date.

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A rating book which rates all merchants of the United States and Canada; no blank ratings. Estimates of capital are made within a narrower range than ever before attempted; HABIT OF PAYMENT is indicated in addition to, though absolutely independent of, the "capital, credit, or standing rating." This is a vital feature heretofore uncovered by any agency book. We rate from "nothing" to ten millions and over. SPECIAL REPORTS promptly furnished.

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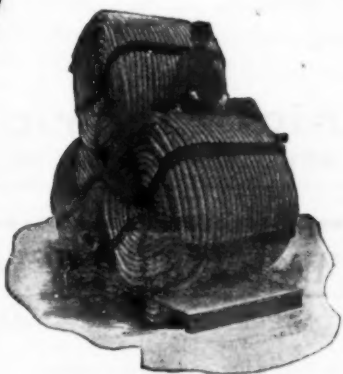
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**Rope**

The Lake Shore and Michigan Southern Railway Company.

ISSUE OF \$40,000,000 TWENTY-FIVE YEAR FOUR PER CENT. GOLD BONDS.

Principal payable Sept. 1, 1928. Interest March 1st and Sept. 1st. Both payable in gold coin of the United States of the present standard of weight and fineness, and without deduction, from either principal or interest, of any tax or taxes which said Company may be lawfully required to pay or retain therefrom by any present or future laws of the United States or any of the States thereof.

Coupon bonds of \$1,000 and \$5,000 each, bearing interest from September 1, 1903, exchangeable for registered bonds without coupons. Registered bonds may be converted into coupon bonds at the option of the owner.

New York, December 24, 1903.

The undersigned offer, subject to sale, \$40,000,000 of the above-described bonds at 99 and accrued interest. The subscription list will be opened on January 2, 1904. Preference to purchase will be given to the holders of the 5 per cent. notes of the Lake Shore and Michigan Southern Railway Company which mature on January 12, 1904. To such holders desiring to purchase a rebate of one-half per cent. will be made, interest on the two securities being adjusted.

For particulars as to the property and security, reference is invited to the accompanying letter of Mr. W. H. Newman, President of the Railway Company. Copies of the indenture and any further information that may be desired may be obtained on application.

We recommend these bonds as an investment of undoubted character.

J. P. MORGAN & CO.
NATIONAL CITY BANK OF NEW YORK.
By James Stillman, President.
FIRST NATIONAL BANK OF NEW YORK.
By George F. Baker, President.

Applications may also be made to:

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THE LAKE SHORE AND MICHIGAN SOUTHERN RAILWAY COMPANY.

GRAND CENTRAL DEPOT, NEW YORK.

Messrs. J. P. MORGAN & CO.,
City.

December 24, 1903.

Gentlemen:

In respect to the Lake Shore & Michigan Southern Railway Company's Twenty-five Year Four Per Cent. Gold Bonds, I beg to say:

The authorized issue of such bonds is limited to an aggregate of \$50,000,000 at any one time outstanding. The bonds are payable September 1, 1928, and bear interest from September 1, 1903, at the rate of four per cent. per annum, payable semi-annually upon the first day of March and the first day of September in each year, without deduction for any tax or taxes which the Railway Company may be required to pay or to retain therefrom under or by reason of any present or future law of the United States, or of any State, county, or municipality therein.

The bonds are to be issued either as coupon bonds of the denomination of \$1,000 or \$5,000 each, or as registered bonds without coupons, of the denominations of \$1,000, \$5,000, \$10,000, \$20,000, \$50,000 or \$100,000, or any other multiple of \$5,000 that may be authorized by the Company. The coupon bonds may be registered as to principal and also may be exchanged for registered bonds, and the registered bonds without coupons may be exchanged for coupon bonds at the option of the owner.

All the bonds are issued under and subject to the provisions of an Indenture dated November 18, 1903, made by the Lake Shore and Michigan Southern Railway Company to the Guaranty Trust Company of New York as Trustee. Such Indenture provides, among other things, that so long as any of said bonds are outstanding and unpaid, the Railway Company will not make any new mortgage upon its railroad without also thereby including therein every bond of this issue equally and ratably with every bond issued under and secured by any such mortgage, such covenant, however, not to prevent the renewal or extension of any existing mortgage.

Of such bonds \$40,000,000 have been issued and sold to you and the proceeds thereof are to be applied to the reduction of the temporary indebtedness of the Company.

In order that you may know what securities have been acquired by this Company during the last four years for the purpose of extending its lines into new territory, or to obtain an interest in other companies which contribute valuable additional business, or which were necessary to protect existing traffic of this Company, the following list of such securities is submitted:

Cleveland, Cincinnati, Chicago and St. Louis Railway.....112,240 shares at \$100 each, \$11,224,000
Lake Erie and Western Railroad:

Common, 59,400
Preferred, 59,300

—118,700 shares at \$100 each, 11,870,000
The Indiana, Illinois and Iowa Railroad Company.....48,705 shares at \$100 each, 4,870,500
Lehigh Valley Railroad.....114,000 shares at \$50 each, 5,700,000
Pittsburg and Lake Erie Railroad.....60,000 shares at \$50 each, 3,000,000
Terminal Railway of Buffalo.....10,000 shares at \$100 each, 1,000,000
Lake Erie, Alliance and Wheeling Railway Company.....30,000 shares at \$100 each, 3,000,000
Lake Erie, Alliance and Wheeling Coal Company.....20,000 shares at \$100 each, 2,000,000
Reading Company: First Preferred.....131,300
Second Preferred.....279,800
Common.....150,000

—551,100 shares at \$50 each, 27,555,000

Total par value.....\$70,219,500
The cost of the above stocks was.....50,290,069
The revenue therefrom during 1903 was.....1,593,430

Respectfully yours,
W. H. NEWMAN,
President.

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Best facilities for making Collections at lowest
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Hamilton H. Hickman, Vice-Prest.

Georgia Railroad Bank, AUGUSTA, GA.

Capital, \$200,000.00 Undivided Profits, \$201,585.63
Commenced Business December 31, 1892.

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Becomes Surety on Bonds of every de-
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A HIGH CLASS COLLATERAL—Accepted in
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Baltimore Fidelity Warehouse Co.

BALTIMORE, MARYLAND.

ALBERT G. ORR, President.

T. E. WITTERS, Sec'y. & Mgt.

THOS. L. BERRY, Treasurer

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American Trust & Banking Co., Atlanta, Ga.

Other agencies will be established where needed.

Correspondence Solicited.

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COLUMBIA, S. C.

CAPITAL, \$250,000.

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High class securities offered for sale.

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A Company Which Will Build Railroads, Electric and Other Works.

The incorporation of the Interstate Securities Co., 5 Nassau street, New York city, is announced in a dispatch from Albany, N. Y. The company has a capital of \$2,500,000, and a number of those interested are either Southerners or connected with Southern enterprises. The announced purpose of the company is to finance and develop enterprises, including railroads, electric, water and gas works.

The incorporators are Alexander McDonald, a Standard Oil capitalist; R. W. Jones, Jr., president of the Oriental Bank of New York; Charles E. Levy, a well-known New York capitalist, and Henry C. Quinby, counsel for the company. They, with the following, comprise the board of directors: Wallace B. Rogers, president of the Interstate Trust & Banking Co. of New Orleans, La.; Isaac H. Kempner of Galveston, Texas; Robert H. Sherwood, formerly of Philadelphia, now of New York; W. D. Stratton, president of the Mobile, Jackson & Kansas City Railroad; Edmund K. Stallo of New York, formerly of Cincinnati; Henry E. Hutchinson, president of the Brooklyn Bank of Brooklyn, and Bird M. Robinson, Frank M. Stratton, John F. Valiant, James F. Egan and Daniel B. Ely of New York.

New Corporations.

The Citizens' National Bank of Ada, I. T., has been authorized to begin business; capital \$50,000.

The First National Bank of Alvin, Texas, has been authorized to begin business; capital \$25,000.

The People's Savings Bank of Abbeville, S. C., has organized by electing Dr. S. G. Thomson, president, and R. E. Cox, cashier.

Reported that a new bank is being organized at Meadville, Franklin county, Mississippi, by J. J. White of McComb City and others.

The Farmers and Merchants' Bank of Kelso, Mo., capital \$10,000, has been incorporated by L. S. Joseph, D. A. Glenn, James A. Matteson and others.

The Farmers and Merchants' National Bank of Comanche, Texas, will, it is reported, be chartered about January 15, with W. H. Montgomery, president, and E. E. Anthony, cashier.

The First National Bank of Gate City, Va., capital \$25,000, has been approved. The directors are I. P. Kane, P. W. Bevins, W. Smith, R. F. McDonald, I. W. Stephenson and J. P. Corns.

The Citizens' Bank & Trust Co. has been organized at Okemah, I. T.; capital \$15,000, which may be increased to \$100,000. The officers are: Wm. H. Dill, president, and Ralph A. Dill, cashier.

The First National Bank of Broken Arrow, I. T., capital \$25,000, has been approved. The organizers are F. S. Hurd, G. W. Laws, James Laws, W. T. Brooks, L. A. Shannard and John Lounberg.

The Continental Trust & Guaranty Co. of Dallas, Texas, has filed its charter; capital \$10,000. The incorporators are B. B. Hemphill, D. Frank Carden, W. L. Hall, Dallas; J. R. Cravens, Houston; W. E. Weatherford, Farris.

The Bank of Silver City, to be established at Palmetto Home, Yazoo county, Mississippi, has published its charter, capital \$25,000 to \$50,000. The incorporators are R. C. Stubblefield, H. Frizell, S. R. Berry, W. B. Burwell and others.

The Lithonia Banking Co. of Lithonia, Ga., capital \$25,000, has been incorporated by J. C. Johnson, G. W. Johnson, W. M. Johnson, G. S. Johnson, A. B. Coffee, W. R. Watson and R. W. Milner, all of Lithonia, De Kalb county, Georgia.

A new bank is reported in process of organization at Yazoo City, Miss., with John Lear, president, and T. F. Davis, cashier; capital \$200,000. The principal stockholders are John Lear, Mrs. Carrie James, Gaddis-Whitehead Company, Henry & Barbour, Dr. J. A. Crisler, S. S. Griffin, R. S. Wheless, R. F. Parker, J. C. Hollingsworth, J. W. Stout, J. R. Lacey and others.

New Securities.

Canton, Mo.—Canton has registered \$10,000 of electric-light bonds.

Waco, Texas.—The attorney-general has approved \$500,000 of Waco 30-year 4 per cent. water bonds.

Port Arthur, Texas.—The Trowbridge & Niver Co. of Chicago has purchased the city improvement bonds at \$476 premium and interest.

Oklahoma City, O. T.—Oklahoma county has sold \$100,000 of 21-30-year 4½ per cent. courthouse bonds to the Mason & Lewis Company of Chicago and New York at \$103,180.

Financial Notes.

The Guarantee Loan & Banking Co. of Dallas, Texas, has filed an amendment to its charter increasing its capital from \$80,000 to \$100,000.

The Osage Bank of Fairfax, O. T., has increased its capital from \$10,000 to \$15,000.

The Citizens' Bank of Harrison, Ark., has increased its capital from \$15,000 to \$25,000.

The Savings Loan & Trust Co. of Monroe, N. C., has decided to increase its capital to not more than \$25,000.

The Thornton Light & Power Co. of Hickory, N. C., took a loan of \$12,750 for two years or more from the First National Bank of that city last week.

The city of Denison, Texas, has decided to pay off \$55,000 of its bonded debt in January, \$30,000 of which is optional. This will reduce the bonded debt to \$136,000.

The First National Bank and Okemah State Bank of Okemah, I. T., have, it is reported, consolidated, with the First National's officers in charge, C. J. Benson of Shawnee being president; M. B. Flesher, cashier, and L. P. Cardwell, assistant cashier.

During 1903 there were chartered in Texas thirty-eight manufacturing companies with a capital stock of \$3,070,000; fifteen telephone systems, covering 200 counties and representing \$2,565,000 of capital stock, and eighteen companies for the purpose of milling and growing rice with a capital stock of \$2,750,000.

The business men of Shreveport, La., have determined to organize a progressive union upon lines similar to that of the New Orleans Progressive Union, and they will raise \$6000 a year for the support of the undertaking.

The W. W. Mills Lumber Co. of Greensboro, N. C., has received from a firm in Germany an order for 1,000,000 feet of lumber, with the understanding that if the lot proves satisfactory the firm would take 10,000,000 feet.

Florida and the South.

Leave Baltimore 9.34 A. M. and 8.25 P. M. daily via Southern Railway. The "Southern's Palm Limited" will resume service January 11, 1904, leaving Baltimore 5.00 P. M. week days, and running through to Jacksonville and St. Augustine, Fla., without change; also handling through sleeper to Aiken and Augusta. Southern Railway dining-car service, excellent in every respect, on all through trains. Winter tourist tickets now on sale at very low rates. Southern Railway office, 120 E. Baltimore street.

cellent in every respect, on all through trains. Winter tourist tickets now on sale at very low rates. Southern Railway office, 120 E. Baltimore street.

**FOR SALE.
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PROPOSALS.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 17, 1903.—Sealed proposals will be received at this office until 3 o'clock P. M. on the 7th day of January, 1904, and then opened, for the low pressure steam heating and ventilating apparatus, complete in place, for the U. S. Custom House and Post Office building at Newport News, Virginia, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Newport News, Virginia, at the discretion of the Supervising Architect. **JAMES KNOX TAYLOR**, Supervising Architect.

PROPOSALS will be received at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 12 o'clock noon, January 5, 1904, and publicly opened immediately thereafter, to furnish at the navy yards, League Island, Pa., Washington, D. C., and the U. S. Naval Academy, Annapolis, Md., a quantity of corn brooms, paving brick, ash, cherry, mahogany, oak, pine piles, steel forgings, rod lead, lard oil, turpentine, emery and crocus cloth, cotton waste, brass tubing, lithographic posters and cleaning and repairing sextants. Blank proposals will be furnished upon application to the Navy Pay Offices, Philadelphia, Pa., Baltimore, Md., and the Bureau of Supplies and Accounts, Navy Department, Washington, D. C. **H. T. B. Harris**, Paymaster General U. S. N.

WATER WORKS AND SEWERS.

Sealed proposals will be received at the Council Chamber, in the City of Hawkinsville, Georgia, until noon of the 21st day of January, 1904, for the following items of a system of Water Works and Sewers:

- One or more artesian wells 6 or 8 inches in diameter, 300 to 400 feet deep.
- One brick pumping station.
- Two 500,000-gallon duplex pumping engines—one high pressure, one compound.
- Two seventy horse power boilers.
- One boiler feed pump, one heater, with fixtures and fittings.
- Furnishing and erecting one steel tank and tower of 100,000 gallons capacity, 100 feet to top of tank.
- Furnishing 430 short tons cast iron water pipe.
- 23,000 pounds special castings.
- 48 hydrants, 40 gate valves and boxes.
- Laying about 23,000 lineal feet of 4-inch to 10-inch pipe, and setting 48 hydrants.

At the same time and place, sealed proposals will also be received for furnishing 19,500 feet of 6-inch to 15-inch sewer pipe, bids for laying the same, and constructing 30 man holes and to flush tanks.

A certified check equal to five per cent. of the amount of the bid must accompany each proposal. A satisfactory bond will be required of the successful bidder. The city reserves the right to reject any or all bids.

Plans are on file and specifications can be obtained at the office of the City Clerk, and at the office of Arthur Pew, Engineer.

T. J. HOLDER, City Clerk.

SEALED BIDS WILL BE RECEIVED BY THE COUNTY COMMISSIONERS OF QUEEN ANNE'S COUNTY TO CONSTRUCT A STEEL DRAWBRIDGE ACROSS KENT ISLAND NARROWS. The bridge will be 258 feet long and the draw 14 feet. It must be constructed according to plans and specifications on file in the office of the County Commissioners for Queen Anne's County, at Centreville, Md. Cash will be paid for the bridge upon completion and acceptance of same by the Commissioners.

All bids must be filed with the Commissioners on or before **TUESDAY, January 12, 1904, at 12 o'clock noon.**

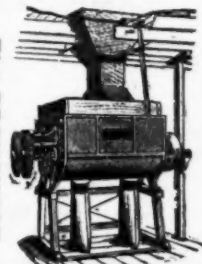
The Commissioners reserve the right to reject any or all bids.

By order of the County Commissioners for Queen Anne's County, Maryland
JOSEPH M. PARVIS, Clerk.

WANTED.

We want the name of every party selling, buying or using any **HOLLOW CONCRETE BUILDING BLOCK MACHINES**, as well as the location of every building erected with **HOLLOW CONCRETE BLOCKS WITHOUT OUR LICENSE.** For first information we will pay a reward. Address the Law Department of the
HARMON S. PALMER COMPANY,
1450 Binney Street, Washington, D. C., owners of Basic Patents.

THE BROUGHTON DRY MIXER
FOR
Hard Plaster, Cement, Paint, &c.
W. D. DUNNING,
86 W. Water St.,
SYRACUSE, N. Y.



WANT TO BUY.

2 250 H. P. Water Tube Boilers, horizontal, with stack, all complete. Also 2 200 H. P. Automatic Engines, direct and belted type, complete. Also one Heater, 300 to 500 H. P., either NEW OR SECOND HAND; give full description.

ANTHRACITE MACHINERY & SUPPLY CO.

Long Distance Telephone. ALLENTOWN, PENNA.

PITTSBURG METER CO.

MAKERS OF

WATER METERS AND GAS METERS

OFFICE AND WORKS:

East Pittsburgh, Pa.

White Steam Touring Car, 1903 MODEL

new in September, in absolutely perfect running condition, may be purchased for \$1650. Price includes hampers which cost \$50. Owner selling because of the close of the season in the North and expecting to purchase 1904 car, same make, next Spring. The responsibility of the owner can be ascertained by inquiry of the publisher of this paper.

J. A. V., P. O. Box 824, New York

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For Baling Cloth, Paper, Yarn &c.
Or for any other purpose requiring great pressure.
BOOMER & BOSCHERT PRESS CO.
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Advertisements under this head will be inserted at the rate of one cent a word for each insertion.

WANTED.—Position to take charge of Erecting Machinery, Engines, Boilers, Shafting, and General Power Transmission Machinery. Can design any kind of power plant. Address **KENL**, care Manufacturers' Record.

Managers of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises and needing machinery or supplies of any kind will find it profitable to consult the advertising columns of the *Manufacturers' Record*. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

ESPECIAL QUALITY IN STEEL CASTINGS.

"SEABOARD" STEEL CASTINGS show physical qualities equal to the finest forgings. Our raw material is most carefully selected and our PRODUCT fills the highest requirements.

OPEN HEARTH STEEL CASTINGS, for locomotives, shipbuilding, electrical, pump and general machinery purposes. Subject to U. S. Government, Lloyd's, Railroad and other specifications.

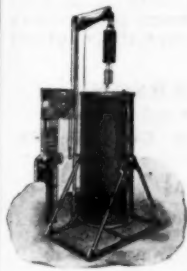
Seaboard Steel Casting Company, Chester, Pa.

Close mill connections enable us to furnish direct from mills when desired:

ANGLES,
BARS,
BANDS,
BEAMS, CHANNELS,
ZEES, TEES,
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PLATES,
Etc.

RAILS,
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SHEETS,
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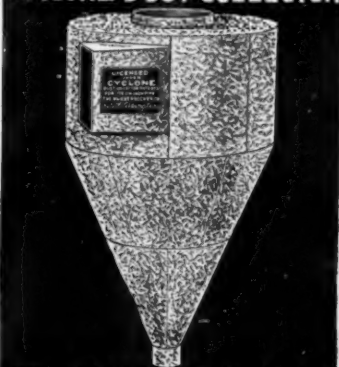
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1505 P Park Bldg.

PITTSBURG, PA.

CYCLONE DUST COLLECTOR



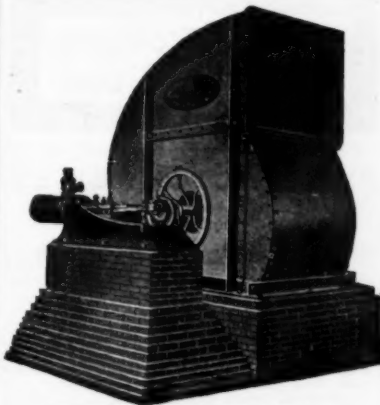
DIXIE MANUFACTURING CO
BALTIMORE, MD.

THE DIXIE

Dust Collecting Systems

are applicable to Saw and Planing Mills, Wood-Working Factories of all kinds, Polishing and Buffing Rooms, Tumbling Barrels, Pulp and Paper Mills, Shoe Factories, Dye Houses, Fertilizer Works, Textile Mills, and all places where dust-producing machinery is used.

Estimates Furnished and All Work Guaranteed.



Directed Connected Fan and Engine.

A & J STEEL PLATE FANS

Heating,
Ventilating,
Drying, Etc.

ANDREWS & JOHNSON CO.

Chicago, Illinois.

ARE YOU TROUBLED with the dust from your Exhaust Fans? If so the

Hartford Patent Dust Collector

will obviate the nuisance.

Write for Leaflet No. 55-H.

THE HARTFORD BLOWER CO.

110 Suffolk St.

Hartford, Conn.



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For Sale. SOUTHERN TIMBER LANDS

**Cypress,
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Hardwoods.**

Also Richest Farming Lands
on Earth.

I cruise all my properties and guarantee estimates.

Reference, Bradstreets' Agency, Provident Bank & Trust Company.

WM. R. TAYLOR,

Dealer in Southern Lands.

Suite 603 Hennen Bldg., NEW ORLEANS.

FOR SALE.

Tract comprising between four and five hundred acres of richest Magnetic Ore Lands in the State of Virginia, analyzing from 60 to 65% fully developed and equipped with the most modern mining machinery; lighted throughout with electricity, surface, shafts and drifts; having Commissary and General Store, wheelwright and Blacksmith Shops, and Railroad sidings together with every other facility for economical operation. Plant working to fullest capacity, constant demand for the ore. Owner wishes to retire from active business. Address

"MAGNETIC,"
Manufacturers' Record.

Timber and Chestnut Oak Bark Lands.

A tract of about 45,000 acres, more or less, of choice timber land recently made accessible to all eastern markets by two routes, and low freight rates, is offered for short time at low price, to responsible parties. Has principally White Oak, Poplar, Hemlock and great quantities of Chestnut Oak bark. Good opportunity for Tannery. Address,

THOMAS T.
Care Manufacturers' Record.

A 10,000 ACRE TIMBER LAND.

A good Water Power.
City and Suburban Real Estate.
Municipal and Industrial Trade.
High grade 75 Preferred Mill Stocks.
5 and 6% First Mortgage Loan.
In the most progressive section of the South

FOR SALE BY

F. C. ABBOTT & CO., Charlotte, N. C.

12,000 Acres Coal

All or Half Interest.

With operated mine Up-to-date.
9000 tons monthly. Near Birmingham, Ala. \$15.00 per acre. Reasonable terms.

B. F. EBORN,

Birmingham, Ala.

Southern Investments

COAL and IRON Properties
are my Specialty.

If you have a dividend-paying property to sell or wish to buy, write me. The larger the deal the better.

BANK REFERENCES FURNISHED.

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Tennessee Hardwood Land For Sale.

20,000 acres of the finest Tennessee Poplar, Oak, Ash, Chestnut, Beech and Hickory timber for sale. A bargain, if sold promptly.

Georgia Title Guarantors Company,

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Parties desirous of investing in Timber, Coal, Lime or Cement properties in West Virginia are respectfully invited to apply to

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Mining Engineer and Surveyor.
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12,000 Acres Coal Lands

near Birmingham, Ala. 32 to 42 inches clean coal underlies entire tract. Fully proven—40 openings. \$11 per acre.

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FOR SALE.

300,000 ACRES pine and cypress lands in Florida. Will cut over 750 million feet l. l. pine and 100 million feet cypress. Price, \$2.50 per acre.

32,000 ACRES. Onslow Co., N. C.; will cut 175 million feet, 90% pine. R. R. and navigable river, 10 miles to ocean. Price, \$265,000.

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FOR SALE.

Several tracts of Virgin Hardwood Timber Land, ranging from 500 to 60,000 acres. Large bodies of Yellow Poplar and White Oak.

A. S. EMERSON, Knoxville, Tenn.

FOR SALE.

5000 acres; also 10,000 acres, oak and mixed, W. Va.; 20,000 acres, Va.

Price right.

SILAS COBB, Arrott Bldg., Pittsburg, Pa.

FOR SALE.

20,000 Acres undeveloped Coal Land on railroad. A great bargain. Also two Coal Mines in operation.

A. S. EMERSON, Knoxville, Tenn.

Water Powers and Mill Sites.

FREE FACTORY SITES

We offer **Factory Sites Free**
in town of

Steelton, W. Va., Wetzel County,

situated on the Ohio River, 2 1/2 miles above New Martinsville, W. Va., 12 feet above 1884 flood. Cheap natural gas and coal fuel. Ample water supply. Baltimore & Ohio and short line railroads and electric lines, together with government improvements now going on in the Ohio River, insure a navigable stage of water at all times, and guarantee ample transportation and shipping facilities. Steam power furnished to new industries.

The New Martinsville Improvement Co.

1605 Chapline St., Wheeling, W. Va.

FOR SALE.

For Manufacturing purposes, two long adjacent city blocks upon the water front of New York Harbor, with sixteen acres of land under water. Apply to

M. J. DODSWORTH,

19 Beaver St., New York City.

The W. T. Weaver Power Company, ASHEVILLE, N. C.

now offers electric power, at very low rates for manufacturing purposes, from its Power Station on the French Broad River, four miles from the City of Asheville, N. C.

This Development Yields 3000 Horse Power.

Good Factory Sites, Cheap Power, Abundant Labor of the best quality, Good Railroad Facilities, Ideal Climatic Conditions, Pure Water for Bleacheries and Finishing Plants from a mountain creek running through the premises, having a discharge of 5,000,000 gallons in 24 hours, are some of the merits of this locality that will command the consideration of manufacturers.

For particulars, address

W. T. WEAVER, President.

ASHEVILLE, N. C.

Miscellaneous Properties and Investment Opportunities.

FOR LEASE,

On Favorable Terms,

the valuable COTTON MILL PROPERTY known as Gray's Mills, on the Patuxent River, consisting of a four-story stone mill and auxiliary buildings, with newly installed 300 horse water, steam and electric power plant, suitable for any kind of textile manufacture.

For further information address

V. G. BLOEDE,

Station "D", BALTIMORE, MD.

ADVERTISER requires partner to increase capital for the purpose of installing a Folding box plant, or other manufacture, in the South. New building and healthy location. Address
BESEX, care Mfrs. Record.

"Beware of the wild cat's claws,
Follow business lines and success
will follow mining investments.

A. M. GRAHAME

Mines Examined and Reports Furnished

A first-class list of gold and other mining properties in North Eastern Georgia for sale or lease on royalty.

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If You Will Invest,

either as a syndicate, corporation, colony, or individual, from \$1,000.00 to \$25,000.00 to improve and cultivate tracts of virgin rice land adjoining this City (Lands that will pay annually \$30.00 net per acre) I will furnish the land equivalent to your investment at \$8.00 per acre. There is railroad and river transportation with an abundance of fresh water for irrigation. Call or address for full particulars.

Lloyd Posey, Land & Investment Dept.

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WE offer for sale a SHINGLE MILL of about 30,000 daily capacity, together with engine, boiler, pulleys, belting and trucks; also 80 acres of cypress timber, estimated to cut 2000 feet of cypress in twenty-three miles from this city. Freight on shingles \$8 per car. Considerable additional timber can be secured.

BROBSTON, FENDIG & CO.

BUNSWICK, GA. JACKSONVILLE, FLA.

FOR SALE. 107 Acres.

Adjoining
Charleston Naval Station Property.

Line of trolley cars, and stone's throw from Plant System, Atlantic Coast Line, Southern Railroad and Water.

Plats and full information. Also other properties. Address

A. F. C. CRAMER, Charleston, S. C.

\$50,000 Going Coal Mine.

All or Half Interest.

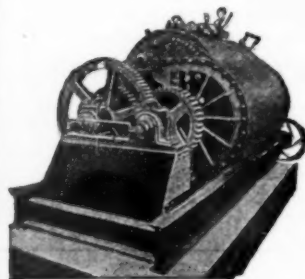
200 tons daily output. Choice high grade grate coal. Reasonable terms 25c. ton rate to Birmingham.

B. F. EBORN,

Birmingham, Ala.

FOR SALE.

A well developed Corundum Mine at a great bargain. Also two Talc Mines
A. S. EMERSON, Knoxville, Tenn.



The Schwarz-System Brick Company,

SAND-LIME BRICK ENGINEERS.

Factories Built by Us are Built Right
and Run Right.

Chemicals Are Not Necessary to
Make Good Sand-Lime Brick.

6-8-10 BRIDGE ST.,
MARITIME BLDG.,

- - - New York.

We are prepared to attend to all matters for you regarding your exhibits at the
WORLD'S FAIR.

In the next few months you will find that there are a number of details to be attended to, requiring the personal supervision of some one for you—such as receiving and unpacking your shipments, attending to the designing and construction of booths and pavilions, arranging your matters with the management of the Fair, etc. It is not necessary for you to send a man to St. Louis for this purpose. Make our office your St. Louis office.

Correspondence solicited.

References furnished.

THE THOMPSON AGENCY,

522-523 Security Bldg., St. Louis, Mo.

T **TEXAS**
OBACCO
TRACTS
Write for Full Information to

"Millions for Farmers"

Exhaustive tests prove
that the finest grade of

CUBAN LEAF

The **SOUTHERN PACIFIC**

Soils and Climate similar to famous Yucatan Abasco District of Pinar del Rio, Cuba.

T. J. ANDERSON, General Passenger Agent.

HOUSTON, TEX.

So Says Secretary Wilson
U. S. Dep't of Agriculture.

Filler and Wrapper can be
grown in East Texas on line of

LATHES.

- No. 72 14"x5' Lodge & Shipley.
No. 73 14"x5' Lodge & Shipley.
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THE LODGE & SHIPLEY MACHINE TOOL CO.

CINCINNATI, OHIO,

U. S. A.

FANS.

Central station man's opportunity to increase the day load. We offer for immediate delivery, all f. o. b. Cincinnati, the following 125 cycle fans:

- 150 G. E. swivel and turn, 12 in., 104 volt., \$5.00 each.
150 Emerson solid, 12 in., 52 volt., \$3 each.
200 Westinghouse solid, 12 in., 52 volt., \$3.50 each.
100 G. E. swivel and turn, 12 in., 52 volt., \$4.00 each.

JOHN A. STEWART ELECTRIC CO.
420 Sycamore St., Cincinnati, Ohio.

Our Taking Stock January 1, 1904

enables you to secure any of these hardly used tools at prices which we really paid for them. Big advance in prices with New Year. Inquiries received now will hold good at these prices.

- 80" Prentice Bros. Drill Press, Back Geared Power Feed.
18"x10' Putnam Engine Lathe, Rise and Fall Rest, Power Cross Feed.
20"x8' Ames Engine Lathe, Plain Rest, Power Cross Feed.
15" Hendey Friction Shaper.
No. 5 Waterbury Open Back Power Press.
No. 32 Bliss Power Press.
Garvin Die Slotter, 2 1/2" stroke.
30" Brainard Automatic Gear Cutter.
No. 1 Diamond Universal Grinder.
No. 1 Diamond Wet Tool Grinder.

Photos and full description on request.

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Spring and Varick Sts., New York City.
PHILADELPHIA—Branches—SYRACUSE

FOR SALE.

- 1 Barber Compressor, direct coupled, 15 H. P. engine. 1 Worthington Brine Pump. Coils for 6-ton refrigerator tank and coils for condenser. 1 Tank, 16x10, 8 foot deep, 5-16 steel. 1 Expansion Boiler. 1 General Electric Dynamo, 500-light capacity, direct coupled, 15 H. P. engine. 1 Erie City 80 H. P. boiler, economic locomotive steel. 1 Marine Switch Board. 4 Switches. 10 large Incandescent Arc Lamps. 1 Stillwell & Bierce Atmospheric Heater. 1 Smith & Vail Boiler Pump. About 2000 feet Wire. About 200 Fixtures, Rosettes, Sockets and Lamps. 1 10,000-gallon Cypress Tank. 1 No. 2 Curtis Steam Trap, 50 H. P. 1 Erie City 4 H. P. Upright Boiler. 1 large Hall Safe with Victor combination steel burglar-proof box in one corner; weight about 5000 lbs. All in good condition.

E. GILLMAN, Selma, Ala.

FOR SALE.

- 75 K. W. direct connected set.
115 volts, excellent condition,
J. C. M. LUCAS,
22 Light Street, BALTIMORE.

BARGAINS—CHEAP.

- One Deane Duplex Comp. Pump, 14x26x11x18.
One 30x13 Blake Pattern Crusher, nearly new.
Three Hoisting Engines. Rails, Locomotives.

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17 Broadway, New York City.

FOR SALE.

- 14"x6' Lodge & Barker Turret.
14"x54' Putnam R. & F. Rest.
15"x6' Porter R. & F.
15"x7' Pratt & Whitney R. & F. with Taper.
16"x10' Fay & Scott Cpd. Rest.
16"x8' Putnam Axle.
16"x6' Johnson Turret.
18"x5' Reed Plain.
18"x5' Lodge & Davis Cpd. & Taper.
18"x6' Lodge & Davis Chucking Lathe.
26"x8' Johnson Cpd. Rest.
38"x14' Betts Cpd. Rest.
No. 14 B. & O. Turret.
No. 2 B. & O. Turret.
No. 14 Garvin Forming Turret.

- 24" Cincinnati Triple Gear Shaper.
28" Prentiss Shaper.
25"x25"x8' Sellers Planer Spiral.
25"x25"x8' Whitcomb Planer—Spur.
30"x20"x6' G. A. Gray & Co.—Spur.
24"x42"x10' Whitcomb—Spur.

- 42"x42"x18' Betts—Spur.
6 Spindle B. & M.—Arch Bar.
No. 0 Bickford Radial Drill.
20" Hoefler Upright.
20" Barnes Upright.
3 Spindle Garvin Sensitive.

- No. 44 Garvin Plain B. G. & A. F.
No. 2 Garvin B. G. & A. F.
No. 3 Garvin Plain B. G.
2 No. 2 Garvin Plain.
No. 2 Mitts & Merrill Keyseat Milling Machine.

- 36"x14' Pratt & Whitney Horizontal Boring Mill.
No. 3 Mitts & Merrill Little Giant Keyseater.
20" Stroke Morton Draw Out Keyseater.
No. 2 Pratt & Whitney Cutting-Off Machine.
2 Wet Tool Grinders.
1 Wells Bros. Universal Cutter and Reamer Grinder.
1 Springfield Knife Grinder.
1 Cold Saw—19" Blade.
1 12" Lowell Slotter.
No. 103 Ferracute Power Press.
1 Emery Grinder, Iron Column & Counter-shaft.
1 Emery Grinder.
1 Magnetic Turning Separator.
1 Reed Speed Lathe.

BROWN & ZORTMAN MACHINERY CO.,

Pittsburg, Pa.

For Sale

At a Sacrifice.

- One 1 1/2 yd. Bucyrus Steam
Shovel in good condition.

- One 10"x16" Hoagland Rock
Crusher.

For detailed information, and
specifications, address

The Cameron & Barkley Co.

Charleston, S. C.

FOR SALE—CHEAP.

- Two 8 in. 4-side S. A. Woods moulders.
One 24 in. Wilkins pony gang saw.
One S. A. Woods iron frame self-feed rip saw.
All in good running order. Replacing with heavier machinery.

McCLURE LUMBER CO.,

WAGAR, ALA.

Dredge for Sale.

A Lidgerwood 30 H. P. Portable Land Dredge, located in Missouri; Is equipped with 1 1/2-yard Hayward "Orange Peel" Bucket, 50-foot boom, of 12x12 fir; heavy "A" frame. All machinery, timbers, sheaves and appurtenances complete, in splendid condition, available for immediate delivery. Cost new \$3600. My price \$2200, loaded on cars shipping point.

WILLIS SHAW—MACHINERY—CHICAGO.

BARGAINS FOR QUICK DELIVERY.

- No. 2 Gates Crusher.
No. 3 Gates Crusher.
No. 5 Style B, Gates Crusher.
Double column Drop Hammer, cylinder 14"x36"; fine order.
Good Second-Hand Engines.
12-ton Kelly Roller, fine as new.
New Well Drilling Machine, cheap.
Marion AA Shovel, fine condition.

CONTRACTORS' SUPPLY & EQUIPMENT CO., 232 Fifth Avenue, CHICAGO.

SECOND-HAND MACHINERY.

- 48"x24' Fifield Lathe, geared face plate.
Fine heavy screw-cutting tool.
48x48" Gibson Planer, table 18', single head.
30x30"x8' Gray Planer.
24x24"x5' New Haven Planer.
18x18"x3' New Haven Planer.
18" Hendey Shaper.
20" Silvers Drill, power feed.
24" Prentice Drill, hand feed.
60" Box Radial Drill.
60-lb. Phillips & Justice Belt-driven Hammer.
2-ton Steam Hammer.
2 1/2" Steam Hammer.
6 to 2 1/2" Pipe Threading Machine.
2 to 1 1/2" Pipe Threading Machine.
34" Bull Dozer.
72" Bending Rolls.
15" Alligator Shear, belt driven.
400-light Westinghouse Dynamo.
300-light Westinghouse Dynamo.
125-light Westinghouse Dynamo.
Engines, Boilers and Pumps, all sizes.
Send for our complete stock list.

WICKES BROTHERS PITTSBURGH, PA.

Hoisting Engines

Refitted and Guaranteed.

- One 10"x10" Lidgerwood, double cylinders.
Two 8 1/2"x10" Lambert, double cylinders and drums.
Two 7"x10" double cylinders and drums with boilers.
Six 7"x10" double cylinders and drums.
Three 6 1/2"x10" double cylinders and drums.
Five 6 1/2"x8" double cylinders and drums.
Two 6 1/2"x8" double cylinders and drums with boilers.
Two 8 1/2"x10" one cylinder, one drum, with boiler.
Four 7"x10" one cylinder, one drum, with boiler.
One 6 1/2"x8" one cylinder, one drum, with boiler.
Three 8"x10" one cylinder, one drum.
Also Dock Hoisters, Cargo and Barge Engines.

WICKES BROS.

95 Liberty St., New York City.

2ND-HAND TOOLS.

- Lathes.**
12 in. x4 ft. Hill Speed (9).
16 in. x6 ft. Blaisdell R. & F.
18 in. x8 ft. F. E. Reed.
18 in. x8 ft. Fifield, R. & F.
20 in. x4 ft. N. Haven F.R.
24-32 in. x12 ft. Blaisdell blocks.
26-36 in. x18 ft. Fitchburg blocks.
27 in. x18 ft. Lawrence C.R. Axle Lathes, Bement (2).
- Planers.**
22 in. x4 ft. Lawrence.
30 in. x6 ft. Pond, Chuck.
30 in. x6 ft. N. Y. S. E. Co.
48 in. x16 ft. Sellers 2 H's.
- Shapers.**
16 in. Western Geared.
32 in. Hendey, New View.
- Drills.**
25 in. 18 in. Gap Slid. H'd.
36 in. N. H., complete.
Boiler Mkr's Suspension.
4 Spindles, heavy.
- Screw Mchs.**
Nos. 0, 1, 2 and 3 1/2 Autos. F. & W.
No. 2 B. & S. Automatic.
3-16 in. Spencer Auto. for Coils.
Hardford 2 in. and 1 in. G. & W.
No. 00 Garvin 1/2 in. W.F.
- Gear Cutters.**
20 in. Gould & Eber Auto.
10 in. Whitton.
36 in. Gould & Eber.
- Hammers.**
50 lb. Stiles Fric. Drop.
60 lb. Bradley Helve.
300 lb. Bradley Helve.
300 lb. Beaudry Upright.
350 lb. Merrill Board Drop.
- Miscellaneous.**
Grinder, Walker Univ. Cutter.
Grinder, 24 in. x 18 ft. Springfield surface.
Presses No. 16, 19 Bliss.
Punch 3 1/2 in. Fowler.
Fox Lathe 80 Arbor gage.
Oil Separator Am. No. 1.
Fire Welder No. 4, Long and Allis.
Rolls Sellers 14 ft. Ship plate Brake, also Shear 8 ft.
Miller Lincoln, P. & W.
Miller Univ. No. 1 Garvin.
Miller Plain No. 2 Garvin.
Pattern Makers' Lathe, Greaves & Klus.
- Wood Wk'g Mchs. Cheap.**
12 in. Smith Jointer.
4 Side Planers (2).
Cut Off Saw Greenleaf.
16 in. Cigar Box Planer, G. & W.
24 in. Band Saw, etc.

Write your requirements.
G. L. BENNETT, 113 Liberty St., New York.

FOR SALE.

- \$ 1 18x42 Left Hand Harris Corliss Engine.
" 1 20x48 Left Hand Hamilton Corliss Engine.
" 1 24x48 Right Hand Brown Corliss Engine.
" 1 250 K. W. General Electric Generator, speed 425, voltage 500.
" 1 200 K. W. Generator. 500 volts.
" 1 24x48 Left Hand Brown Corliss Engine.
" 1 16x42 Right Hand Hamilton Corliss Engine.
" 1 20x86 Porter Slide Valve Engine.
" 1 20x48 Left Hand Wheelock Corliss Engine.
" Write for full description.

Clyde Machine Works
39th and Union Ave., CHICAGO, ILL.

FOR SALE.

- One 1 1/2-yard AA Marion Shovel.
One 23-ton Bucyrus Shovel, 1-yard dipper, Pittsburgh delivery.
One 55-ton Vulcan, fine condition.
One 45-ton Thew Automatic Shovel, 1 1/2-yard dipper, Ohio delivery.
One Moore Trenching Machine, complete with buckets and 25 H. P. engine and boiler.
One 250-ft. Carson Trench Machine.
21 1 1/2-yard Western Dump Cars (3 rotaries).
12 1 1/2-yard Western Dump Cars.
One Emerson Pump, 5" discharge.
Two Kitson Contractors' Lamps.
Two 25 H. P. Geyser Traction Engines.

N. C. HEISLER & CO.

2304-6-8 Washington Ave., Philadelphia, Pa.

FOR SALE.

- 1 right hand Prescott band mill, 8 in. x8 ft. 2 dynamos, 300 light capacity. 8 horizontal tubular boilers, with dome, size 5 ft. x16 ft., 44 4-in. tubes. 1 fan, 9 ft. engine attached. 1 fan, 7 ft. belted. The above items are all in good order, and will be sold cheap for cash. For further particulars inquire of

VEILOW POPLAR LUMBER COMPANY,
COAL GROVE, OHIO.

In Stock. Immediate Delivery. Rebuilt and Guaranteed.

20" x 10" x 16" Cross Compound Corliss. 28" x 60" Wetherill Corliss. 26" x 60" Wetherill Corliss. 21" x 12" Rickards Corliss. 20" x 40" Frick Corliss. 20" x 42" Slater Automatic. 22" x 32" Watertown. 18" x 24" New York Safety Vertical. 16" x 27" x 16" Westinghouse Compound. 14" x 24" x 14" Westinghouse Compound. 12" x 22" x 20" Porter-Allen Automatic. 3 1/2" x 20" x 12" Westinghouse Compound. 16" x 36" Wetherill Corliss. 16" x 42" Harris Corliss. 16" x 40" Green Automatic. 15 1/2" x 15" Armstrong & Sims. 15" x 30" Buckeye. 15" x 30" Russell Automatic. 15" x 18" Taylor-Beck Automatic. 15" x 16" Ball Automatic. 14 1/2" x 15" Armstrong & Sims. 14 1/2" x 15" McIntosh & Seymour. 13" x 12" Armstrong & Sims. 13" x 14" Vertical Fitchburg Automatic. 12" x 24" Buckeye Automatic. 12" x 15" Ide Automatic. 12" x 12" Armstrong & Sims. 11" x 15" Atlas Automatic. 11" x 12" Chandler & Taylor Automatic. 10" x 16" Buckeye Automatic. 10" x 15" Atlas Automatic. 3 7/8" H. P. Gas Engine. Large stock of Dynamos, Iron and Wood Working Machinery. And many others. Stock is constantly changing. Let me have a list of your wants.

BOILERS.

2 66" x 18" Horizontal Tubulars, 125 lbs. steam. 6 66" x 16" Horizontal Tubulars, 120 lbs. steam. 2 150 H. P. Wood Water Tube, practically new. Large stock of new and second-hand Horizontal, Vertical and Locomotive Boilers. 2500 H. P. Goulet Heater. 3 500 H. P. Berryman Heaters. 60 large Steam Pumps, up to 12" suction, assorted sizes. 50 H. P. Otto Gas Engine. 40 H. P. Otto Gas Engine. Large stock of Dynamos, Iron and Wood Working Machinery. Send for Special Catalogue of 2300 pieces.

FRANK TOOMEY,

127-131 N. Third St. Philadelphia, Pa.

WANT TO SELL.—5 150 H. P., 6 125, 3 100 and 8 20 up to 80 H. P. Horizontal Return Tubular Boilers. 100 lbs. steam and better. 1 50 H. P. Vertical Boiler, complete; also, 1 10 H. P. NEW, never used, complete. 1 5 H. P.; also several larger ones. 1 2 H. P. Gasoline Engine. 1 6 H. P. Hor. R. T. Boiler. 1 5 H. P. Center Crank Engine. 1 15 H. P. Self-contained Center Crank. 1 50 H. P. Side Crank. 1 100 H. P. Center Crank. 1 200 H. P. Side Crank. Hor. Slide Valve Engines. 1 8x10 Erie Ball Automatic Engine. 3 5 H. P., 2 6 H. P., 2 8 H. P., 4 10 H. P. and 7 12 to 25 H. P. Vertical Engines, excellent condition. 1 20-ton Dudgeons Improved Hydraulic Jack. 1 6 H. P. Coal Oil Engine and Boiler, complete. 1 5-ton Electric Crane. 10 K. W. Motor, used one week. 2 G. & G. Vacuum Pumps, 14x10x9, 12x20x9. 1 8x5 D. C. S. D. Lidgerwood Hoister. 9 54x16 ft. long Hor. Return Tubular Boilers. 1 No. 3 Dallett Portable Drill, complete. 1 16x10x22 Single Pump; 16x10x16 Knowles. 1 12x8x12 and 14x7x12 Single Knowles Pumps; also lot of Tank Pumps, duplex and single; Motors, Dynamos, Tanks, Wire Rope, Cable, etc.

WANT TO BUY.—1 500 H. P. or 2 250 H. P. each Vertical Water Tube Boilers. 3 30 to 60 H. P. Vertical Boilers. Lot of High Pressure and Tank Pumps; Wire Cable, 1/2 to 2 1/2" inclusive; Pipe, and ANYTHING YOU HAVE TO OFFER, must be SECOND-HAND.

ANTHRACITE MACHINERY & SUPPLY CO.
Long Distance Telephone. ALLENTOWN, PENNA.

FOR SALE.

DAVIS CALYX DRILL.

Class F, with appurtenances and 10 H. P. locomotive type Boiler on wheels, to run drill.

This drill is used for exploiting for minerals and for driven wells, and is very complete in all its appurtenances. It has been in use about ten months with best of care, and was new when purchased. Its capacity is guaranteed for 600 feet, but will bore deeper with sufficient drill rods. It cuts a 4 1/2" hole and 3" core; 300 feet of drill rod, 131 feet of 3" extra black pipe for casing. Drive head and shoe. This drill gave entire satisfaction, and in our opinion is superior to a diamond drill. We are selling because of retirement from business. Will sell very reasonable to a cash purchaser, f. o. b. cars Sylva, N. C.

R. L. MURRAY, Waynesville, N. C.

FOR SALE.

One Second-hand Atlas Engine, 100 horse power, suitable for heavy duty; used but little and in good working order. Address

BOLIVAR FOUNDRY & MACHINE CO.
BOLIVAR, PA.

FOR SALE AT A BARGAIN.

One 31x60 left-hand Corliss Engine, in excellent condition. Also one 650 lb. Morgan & Williams Steam Drop.

Davenport Machine Works,
DAVENPORT, IOWA.

CHAS. T. LEHMAN, Birmingham, Ala.
Boilers, Engines, Machinery.
SECOND HAND. LOW PRICES.

FOR SALE.

\$75,000 worth of new leather belting, single and double, from 1" to 24" wide, which is somewhat stock worn but brand new, having never been used, for all practical purposes as good as the day it came out of the shop. We are selling it as second-hand belting. It was built by one of the best belt manufacturers in the United States. We offer it in quantities to suit buyers. Write for prices.

L. F. SEYFERT'S SONS, PHILADELPHIA.
437-441 N. Third Street.

Wood Split Pulleys FOR SALE

I want to close out at once a large stock of wood pulleys composed of the Forsttre and Eaton makes. All sizes up to 50 inches in diameter. Price made according to purchase.

J. D. MALLORY,
Baltimore, Md.

MACHINERY BARGAINS.

8 72x16 H. P. Brownell & Co's H. T. Boilers, fine order.
1 12x18 100 H. P. Lansing automatic side crank engine.
1 16x24 Lansing automatic side crank engine.
1 16x18 center crank Atlas slide valve engine.
4 large belt wheel pulleys suitable for line shafting or engines.
From 4 to 30" double ply leather belts, different sizes, fine order.
We will buy, sell or trade. Let us have your wants.

J. W. KOHN & CO., Cleveland, O.

HOISTING ENGINES AND MACHINERY.

One Lidgerwood No. 120, 8 1/2 x 10 cylinders.
One Lidgerwood No. 72, with simplex swinging gear.
One 7x12 single cyl., single drum, with boiler.
One 5 1/2 x 10 single cyl., single drum, without boiler.
12 small Stationary Engines, 5 to 40 H. P.
CONTRACTORS' BOILERS, DERRICKS.
Contractors' Supply Co., Park Bldg., Pittsburg.

FOR SALE.

250 tons 35 lb. relays, with splice bars, good condition.
1 (Dickson Manufacturing Co.) 36-in. gauge, 35-ton locomotive, with tender.
12 15-ton capacity, side dump, 36-in. gauge, hopper bottom ore cars, by Tredegar & Co., Richmond.
All the above material subject to inspection at McDowell, Alleghany Co., Va.
ALLEGHANY ORE & IRON CO.
Clifton Forge, Virginia.

FOR SALE.

1 22x52 R. H. Watts Campbell Corliss Engine.
1 10x12 Ideal Automatic Engine.
1 10x7x10 Worthington Duplex Pump.
1 15-ton Road Roller for sale or rent.
1 Little Giant Steam Shovel.
1 10x7x10 Worthington Duplex Pump.
Iron Tanks, 300 to 1000 gallon capacity.

JAS. S. BRADEN, 26 Cortlandt St., New York.

Steel Building,

800 feet x 56 feet.

Good as new, for immediate shipment.

UNION RAIL CO.

902 Farmers Bank Bldg. PITTSBURGH, PA.

FOR SALE.

100 H. P. Boiler and Engine. Also
35 H. P. Engine, almost new. Write

CRESCENT IRON WORKS,
NORFOLK, VA.

FOR SALE.

New I Beams and Channels cut to lengths for prompt delivery.
We are always in the market for Cylinder Boilers, Smoke Stacks, Flues and Second-Hand Pipe.
Also Scrap Iron and Steel in any quantity.

HENRY A. HITNER'S SONS,
Aramingo Ave. and Huntingdon St., Philadelphia.

MANUFACTURERS

Light Steel Rails,
12, 16, 20, 25, 30 and 35 lbs. with splices.
Prompt delivery.

Maryland Rail Co.
CUMMERSLAND, MD.

**New and Second-Hand
Iron Tools and Woodworking Machinery**

Corliss and Double Valve Engines for Trolley Roads and Electric Lighting Stations.

H. C. BAKER & CO.
114 N. 3d Street, Philadelphia, Pa.

CONTRACTORS' MATERIAL.

One 9x14, 36" gauge saddle tank locomotive.
One 10x16, 36" gauge locomotive with tender.
Three 16x24 standard gauge with tender.
One 10x12 S. G. Baldwin dummy type locomotive.
One 8x16, 42" gauge saddle tank; also 7x12 same gauge.
One Marion style A shovel with 1 1/2 yd. dipper.
One Vulcan shovel with about 1 1/2 yd. dipper.
Giant B. style.
One 24" gauge locomotive and 18, 24" gauge cars; fine order.
36", 42" and standard gauge cars all sizes and also rail.
One Smith concrete mixer on skids, steam engine attached.
1 Pile driver, 1 Flory engine and boiler.
1 Orange pool dredge complete with 2 1/2 yd. buckets.
Centrifugal and steam pumps, wheel scrapers, slips, dynamo, etc.
NOTE: We will RENT you a complete CONTRACTORS PLANT if you do not wish to purchase outright.

HARPER MACHINERY CO.

Park Row Bldg., N. Y.

Yards and Shops, Newark, N. J.

J. E. FRANKS

SAVANNAH, GA.

**RAILS, CARS AND LOCOMOTIVES, FROGS,
SWITCHES, Etc.**

RAILS—LOCOMOTIVES.

400 tons 35 and 40-lb.; 2000 tons 56-lb.; 600 tons 60-lb. steel relay rails.
Locomotives—Narrow and standard gauge. 50 locomotives on hand.

Southern Iron and Equipment Co.
ATLANTA, GA.

FOR SALE.

New Steel Tee Rails

60 to 80 lb. A. S. C. E. section.
Delivery guaranteed.
RAILWAYS BUILT and FINANCED.
C. H. RUTTER, Easton, Penna.

LOCOMOTIVE CRANES.

1 New 15-ton Locomotive Crane, immediate delivery.
1 New 10-ton Locomotive Crane, immediate delivery.

THE BROWNING ENGINEERING CO.

Lock Drawer "Q," Cleveland, O.

FOR SALE—RAILS.

For immediate shipment from stock, 8, 12, 16, 20, 30, 40, 70, 75, 80 and 85-lb. New Rails. Also 20, 25, 30, 40, 50, 55 and 60-lb. Relays, for prompt shipment. Cut Rails a Specialty.

RICHARDSON & CO., Inc.

300 Ninth Street, PITTSBURGH, PA.

FOR SALE.

1 Locomotive, 36" gauge, 11x16, 15-ton capacity.
9 Box Cars, 54' long, 60,000 lbs. capacity. 30 Box Cars, 30' long, 40,000 lbs. capacity. 200 tons 56 lb. Steel Relays. 150 tons 60-lb. Steel Relays. 50 tons 53-lb. Steel Relays. Also New Rails, 8 to 40 lbs.

L. WOLF & BRO.,

50-51 3d Mitchell Bldg., CINCINNATI, OHIO.

STEEL RAILS.

New and Relaying Rails, all weights, for prompt shipment. Frogs, Switches and Crossings. Write us for prices.

STRINGFELLOW & WEBSTER,
RICHMOND, VA.

Alabama Frog & Switch Co.

ANNISTON, ALA.

Manufacturers of

**Railroad Crossings, Frogs,
Switches, Switch Stands, Rail Braces, Etc.**

NEW LIGHT STEEL RAILS.

12 lb. to 40 lb. per yard and Splices.
New Heavy Sections to 80 lb.
Narrow Gauge Railway Equipment.
Cars, Locomotives, Switches, Etc.

WONHAM & MAGOR,

Columbia Building, NEW YORK.

STEEL RAILS.

**NEW AND RELAYING AND
ALL ACCESSORIES.
Frogs, Switches, Crossings, Etc.**

GEORGE H. CAREY,

1 Broadway, NEW YORK.

OUR BARGAIN LIST OF MATERIAL.

When you are in the market for Supplies of any kind, consult us before placing your order. Our establishment is the LARGEST in the world. Our Main Buildings and Warehouses cover 20 acres of land. All of the material that we offer for sale is in our stock ready for immediate delivery.

If you are in a special rush for any material, telegraph us at our expense for quotations. We invite you to call and inspect our institution when in the city. Five long-distance 'phones, all Yards 827. We use Western Union and A. B. C. codes.

RADIATION.

50,000 ft. factory radiation, sizes from 25 to 200 sq. ft. of heating surface each; for single and two-pipe systems. All shapes. Price per square foot heating surface, 15 1/2 cts.

PIPE.

Our stock consists of the following quantities. It is all in good condition, ready for immediate use; re-threaded, new couplings:
50,000 ft. 1/2 inch. 8,000 ft. 6 inch.
68,000 ft. 1 inch. 1,000 ft. 7 inch.
110,000 ft. 1 1/2 inch. 2,000 ft. 8 inch.
8,000 ft. 1 3/4 inch. 900 ft. 9 inch.
45,000 ft. 2 inch. 1,500 ft. 10 inch.
87,000 ft. 2 1/2 inch. 1,400 ft. 12 inch.
4,000 ft. 3 inch. 400 ft. 14 inch.
13,000 ft. 4 inch. 400 ft. 16 inch.
2,000 ft. 5 inch. 250 ft. 18 inch.

Also
150,000 ft. 3/4 in. light-wgt. pipe; per ft., 11 cts.
165,000 ft. 4 in. light-wgt. pipe; per ft., 15 cts.

BELTING.

A large stock of first-class, fine second-hand Leather Belts. They are rebuilt, that is, they have been taken apart and put together the same as a new belt, and we ship them under the binding guarantee that you will find them entirely satisfactory; if not, we will take them back from you. Can furnish you single or double thick belts in any width desired at a discount of 30 and 10 per cent. from prevailing Standard List.

Also a quantity of high-grade guaranteed Rubber Belts, any width or ply, for immediate shipment. Telegraphic orders filled same day received. Discount—75 and 10 per cent. from prevailing Standard List.

PULLEYS.

Three carloads of new wood-split pulleys, ranging from 30 to 96 in. dia., and very nearly any size face. Discount, 85 per cent. from prevailing List, for immediate acceptance only.

MANILA ROPE.

A carload of fine used Manila rope, highest grade, ranging from 1/2 to 2 inch. Per lb., 7c.

IRON ROOFING.

2400 squares of good second-hand galvanized-iron roofing in heavy gauges running about No. 22. Sheets are miscellaneous sizes. It is practically free from nail holes; has been nicely trimmed; 2 1/2 inch corrugated, and is perfectly serviceable for further use. Price per square, \$3.00. Also—
1400 squares same as above in black steel. Price per square, \$2.50. Also new roofing.

FELT ROOFINGS.

10,000 rolls of new high-grade felt coverings. It is perfect material, fully guaranteed. We offer:
2 ply, per sq., \$1.15. Vulcanite, per sq., \$1.50.
3 ply, per sq., \$1.35. Rubberoid, per sq., \$1.75.
Samples on application. Special prices in large lots.

VALVES.

250 fine second-hand Globe, Angle, Check, Gate and pressure valves; sizes 2 1/2 to 14 inch. These valves are perfectly tight, and are guaranteed. We will save you at least 50 per cent.

BOLTS.

Two cars of new mixed bolts—machine, plow, etc. All sizes and diameters; put up in kegs. A handy assortment. Price per pound in 1000-pound lots, 2 1/2 cts.

INCANDESCENT LAMPS.

Guaranteed new; put up 250 in original barrels just as they came from factory. They are not refilled, but are sold to you with the understanding that if, upon trial, you do not find them satisfactory, that we will give you authority to return them to us at our expense for return charges. Can furnish voltages 100 to 115; candle-powers 8, 10, 16, 20 and 25. Bases, Edison and T. H. We name you price on these lamps in barrel lots, with Edison base, each 9 1/4 cts.
T. H. base, each 10 1/4 cts.

WIRE ROPE.

We have in stock a quantity of fine second-hand wire rope, six strands, 19 wires to the strand, which has not seen excessive service, and which is in first-class condition for further use:

65,000 ft. 1 1/2 in., 12c. p. ft. 1 1/2 in., 12c. p. ft.
42,000 ft. 1 1/4 in., 11c. p. ft. 3 in., 18c. p. ft.
13,000 ft. 1 1/8 in., 14c. p. ft. 2 1/4 in., 24c. p. ft.

In addition to the above, we have all sizes of cable, ranging from 3/8 inch up.

GENERAL SUPPLIES.

Our stock includes such items as WIRE, WIRE ROPE, WIRE NAILS, CUT NAILS, HARDWARE OF ALL KINDS, AXES, PLUMBING MATERIAL, SHAPING, HANGERS, PULLEYS, TWINE, CORD, ETC., ETC.

ENGINES.

12x30 Fraser & Chalmers Corliss.
30x60 Fraser & Chalmers Corliss.
22x45 Wheelock Corliss.
13x15 Armstrong & Sims. 16x24 Atlas.
13x12 New York Safety.
14x13 Armstrong & Sims. 16x16 Hendy.
10 1/2 x 12 Armstrong & Sims. 16x16 Rice.
9 1/2 x 12 Armstrong & Sims. 7 1/2 x 10 Hendy.
14x24x14 Westinghouse.
18x30x16 Westinghouse.
13x22x13 Westinghouse.
11x19x11 Westinghouse.

16x24 Bass slide valve. 8x8 Ames "Lively."
10x12 double cylinder, link motion, Marine.
6x7 1/2 vertical center-crank New York Safety.
8 and 12x14 McEwen tandem compound and 35 k. w. 110-volt C. & C. generator, direct connected.

14x24 Cummer. 12x24 slide valve.
18x24 slide valve. 11x14 center crank.
16x28 slide valve. 10x16 slide crank.
15x20 slide valve. 10x12 center crank.
14x18 slide valve. 9x18 slide crank.
12x30 slide valve. 9x12 center crank.

Catalogue No. 230 on Application.
CHICAGO HOUSE-WRECKING CO.
West 35th and Iron Sts., CHICAGO.

NEW or RELAYING STEEL RAILS FOR SALE.

Prompt Shipment.

12" lb., 16 lb., 20 lb., 25 lb., 30 lb., 35 lb., 40 lb.,
45 lb., 55 lb., 60 lb., and 70 lb. Steel
"T" Rails with complete joints.

Advise us what you want.

ROBINSON & ORR,
419 Wood St., Pittsburgh, Pa.

Manufacturers Light Steel Rails

16, 20, 25, 30, 35, 40 lbs. per
yard, splice and angle joints
and bolts.

Spikes for all section rails.

Shipment from stock at all
times.

SCHONTHAL IRON & STEEL CO.

Mills and General Offices,
CUMBERLAND, MD.

NEW RAILS.

12,500 tons New Steel T Rails,
60, 70, or 80 lbs. per yard. July
and August delivery.

Railroad Construction.

Steam and Electric Roads
Built and Financed.

JUSTICE COX, JR., & CO., LIMITED,

552-554 Bullitt Bldg., Philadelphia.
156-158 Broadway, New York City.

RAILS.

We own 1000 Tons 35 lb. First Class Re-
laying Steel Rails with Fastenings, in East
Texas, on 3 large Railroads. 8, 12, 16 and 20
lb. New Steel in our warehouse. 25 to 40 lb.
New Steel in stock at Mill. New and Relay
any weights.

Locomotives, Equipment and Supplies of
all kinds.

WESTERN SUPPLY & MFG. CO.

East St. Louis, Ill.

FOR SALE.

17 NEW 36" gauge 30,000
lbs. capacity

Flat Cars

For Prompt Shipment.

Kilby Locomotive & Machine Works,

ANNISTON, ALA.

FOR SALE.

300 tons 60X-lb. steel relaying rails with angle bars,
Alabama and Georgia delivery.

900 tons 70-lb. steel relaying rails with angle bars,
Ohio delivery.

500 tons 48-lb. steel relaying rails with angle bars,
Ohio delivery.

Second-hand locomotives, coaches, steam shovels,
and other railway and contracting material.

THE ISAAC JOSEPH IRON CO.

525-531 Hunt St., Cincinnati, Ohio
523-524 Monadnock Block, Chicago, Ill.

FOR SALE-LOCOMOTIVES.

Baldwin 56-ton Consolidation, cyls. 30x24, first-class.

Baldwin 50-ton Mogul, cyls. 18x24, first-class.

Baldwin 22-ton 4-Drawer, saddle tank switcher, 2-
wheel front truck, cyls. 11x18; just overhauled.

Porter 3-foot Saddle Tank, 6-driver, cyls. 10x16,
weight 17 tons, very good order, quick delivery.

Many other Engines, various gauges, geared and
straight connected. Write for prices.

THE MALES CO., 256 Broadway, New York,
N. Y.; 713 Traction Building, Cincinnati, O.

FOR SALE.

Two hundred and fifty tons of new forties; two
hundred and fifty tons new thirties; one 16" cyl.
Roger Locomotive, good condition; one 15" cyl.
Baldwin Locomotive, good condition; one 15-ton
stand. gauge Locomotive, for wood or iron rails;

two 28-ton 14" cyl. stand. gauge Locomotive, fine
condition. Apply

SABEL BROTHERS,

Jacksonville, Fla.

FOR SALE

New Locomotives.
3 Narrow Gauge Locomotives.
A lot of Coaches, Flat Cars and Box
Cars, narrow gauge.
10,000 ft. 1 1/2" Wire Rope.
1 800 ft. Complete Cableway.
6 3/4" L. S. Drills.
2 No. 3 Well's Lights, as good as new.
40 tons 70 lb. Relaying Steel Rail.
200 tons 55 lb. Relaying Steel Rail.
1600 tons 35 lb. Relaying Steel Rail.
65 tons 40 lb. Relaying Steel Rail.
45 tons 25 lb. Relaying Steel Rail.
500 tons 30 lb. Relaying Steel Rail.
New Rails from 16 lb. to 80 lb.
Frogs, Switches, Splice Bars, Railroad
Spikes, Bolts, and Nuts of all kinds.
Cars of all kinds.

CLARK & HINES, Baltimore, Md.
Railway Equipment, Mine and
Contractors' Supplies.

FOR SALE.

New Light Steel Rails,

ALL WEIGHTS,

WITH

Track Fastenings.

THE STEEL RAIL SUPPLY CO.

100 Broadway,
NEW YORK, N. Y.

For Sale—Locomotives and Rails.

One 20x24 Baldwin 50-ton Consolidation.
One 19x24 Dickson 55-ton American type.
Two 17x22 Dickson 38-ton six-wheelers.
One 15x22 McQueen 30-ton American type.
One 12x16 Baldwin 24-ton Forney type.
Four 12x16 Baldwin 23-ton Forney type.
One 9x14 Porter 15-ton four-wheel, with rear truck.
All of the above standard gauge.

In 3-ft. Gauge Locomotives we have:

One 10x16 Porter 16-ton 6-wheel, saddle tank.
One 9x16 Porter 14-ton 4-wheel, saddle tank.
Two 9x14 Baldwin 13-ton 4-wheel, saddle tank.
One 8x16 Porter 11-ton 4-wheel, saddle tank.
One 8x14 Porter 10-ton 4-wheel, saddle tank.
One 7x12 Baldwin 8-ton 4-wheel, saddle tank.
Also New and Relaying Rails of all weights.

BIRMINGHAM RAIL & LOCOMOTIVE CO., Birmingham, Ala.

N. Y. Elevated R. R. LOCOMOTIVES

Ready for Immediate Delivery.
Excellent Condition.

4' 8 1/2" Gauge, Forney Type, Cylinders
11"x14", 11"x16", 12"x16".

Suitable for Logging Roads, Contrac-
tors, Switching, &c.

BENJAMIN WATSON,

(Coffee Exchange Bldg.)

68 to 70 Beaver Street, N. Y. CITY.

Steel Rails, Cars, Locomotives, R. R. Supplies.

NEW, LIGHT STEEL RAILS

FOR SALE.

Immediate Shipment.

16, 20, 25, 30 and 35-lb. Steel "T" Rails
with complete joints.

CLEARFIELD STEEL & IRON CO.

Mills at Clearfield, Pa.

Offices, German Natl. Bank Bldg., PITTSBURGH, PA

FOR SALE.

Several Narrow Gauge Engines 10 to 20 tons;
also standard from 40 to 60 tons. 1 16x24 Switch-
er in splendid condition. Stationary Boilers and
Engines. 1 Perkins Shingle Machine as good as
new. Agent for the Russell Wheel and Foundry
Co. Cars. Also the Parker Steam Skidder.

J. H. MACLEARY & CO.
Suffolk, Va.

FOR SALE.

NEW STEEL RAILS.

12, 16, 20, 30, 35 and 40 lbs., with splice bars,
bolts and spikes. Immediate shipment from stock.

JOHN J. HAMEL & CO.

House Building.

PITTSBURGH, PA.

FOR SALE.

Four (4) 18"x22" Cylinder Baldwin, ten-wheel Freight Standard Gauge Locomotives, weight
about 42 tons; six drivers, 50" diameter; separate eight-wheel tender.

One (1) 14"x22" Cylinder, Baldwin six-wheel Locomotive (four drivers 50" diameter, pony
truck in front, with separate eight-wheel tender.

Twenty (20) Flat Cars, 30' long, 20 tons capacity, Diamond Trucks, M. C. B. Automatic
Couplers, hand brakes.

Twelve (12) Coaches, 51' over all; carry 54 passengers; good coaches; cheap.

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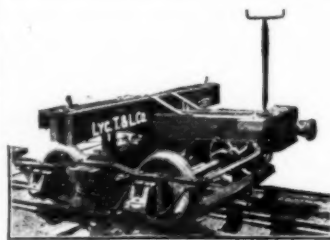
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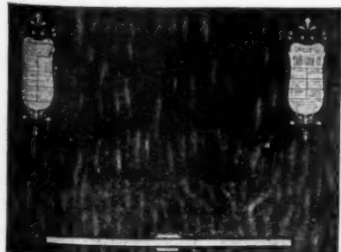
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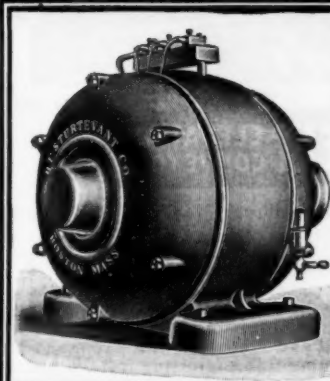
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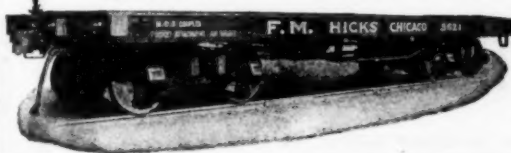


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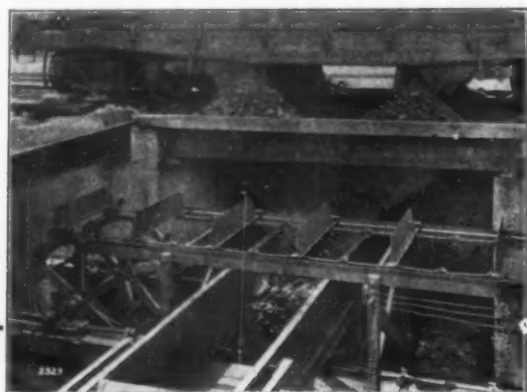
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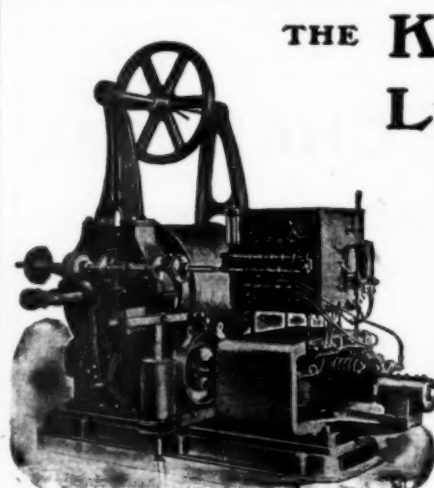


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November 27th 1903

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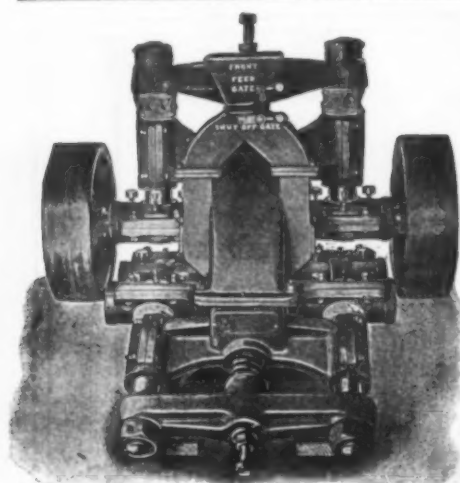
Yours Truly

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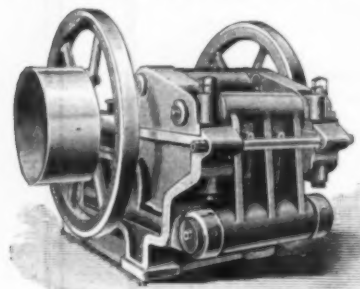
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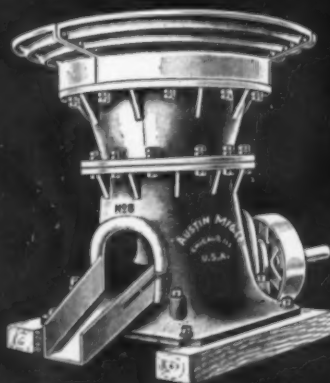
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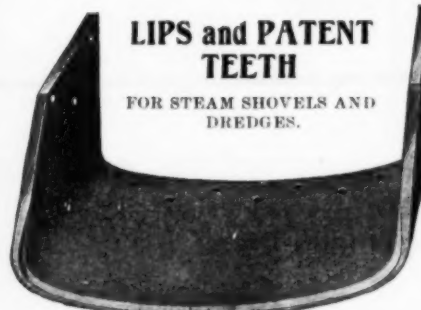
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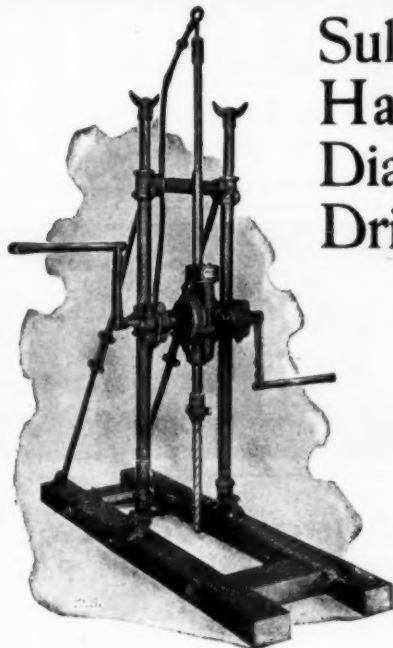
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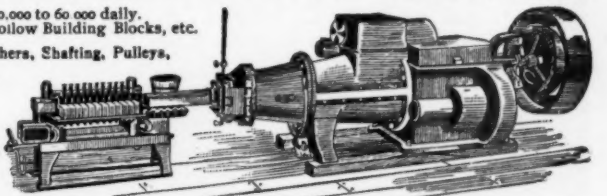
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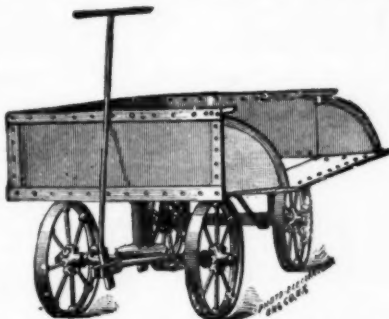
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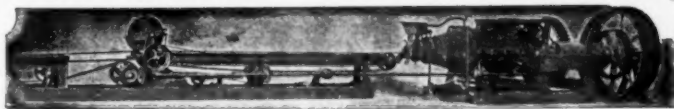
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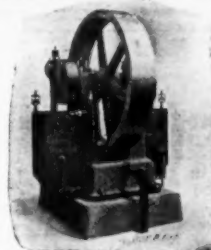
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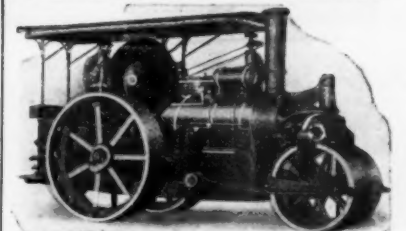
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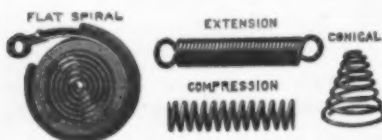
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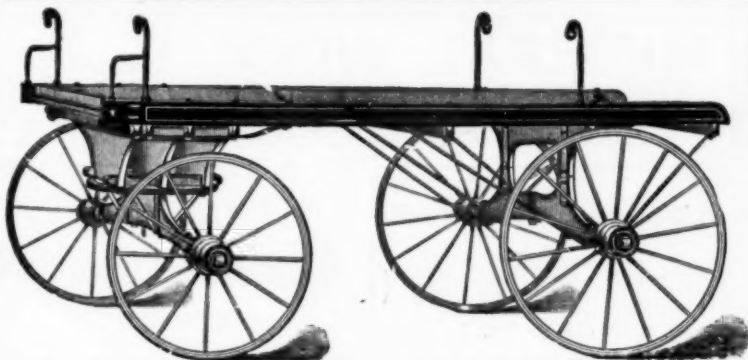
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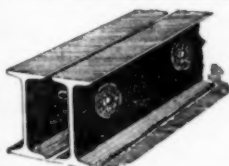
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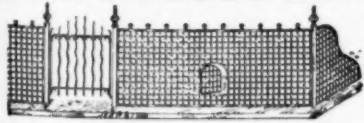


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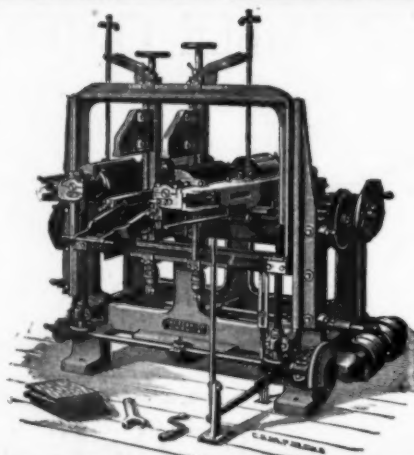
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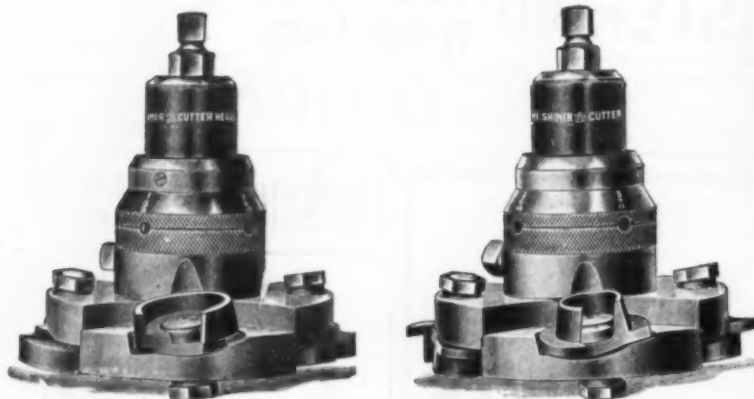
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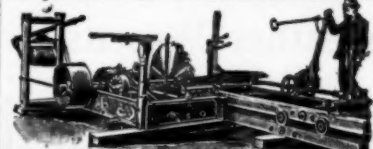
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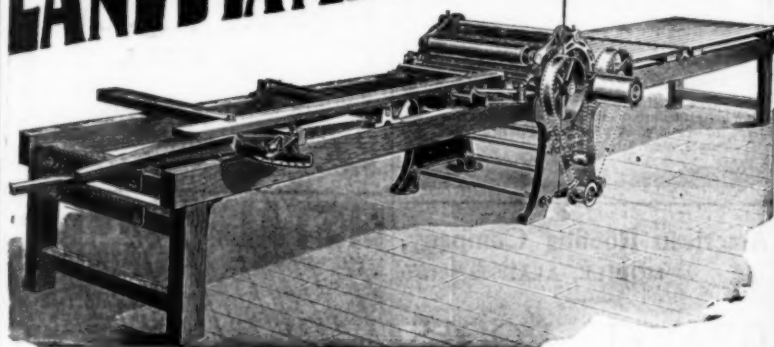


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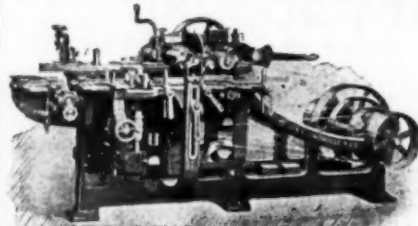
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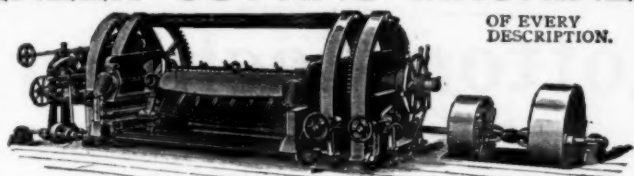
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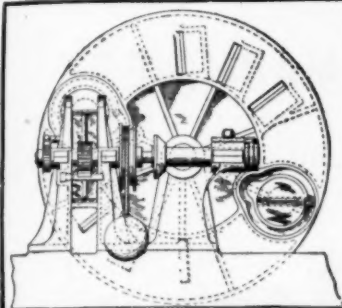


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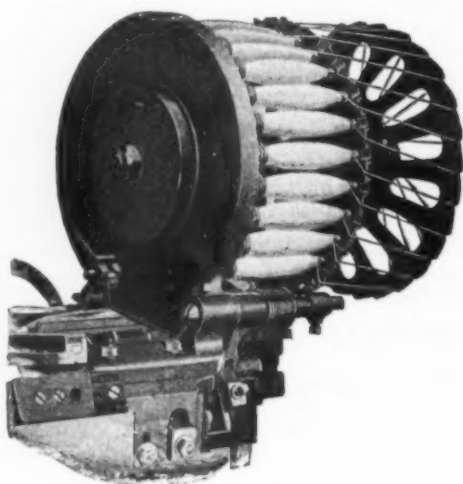
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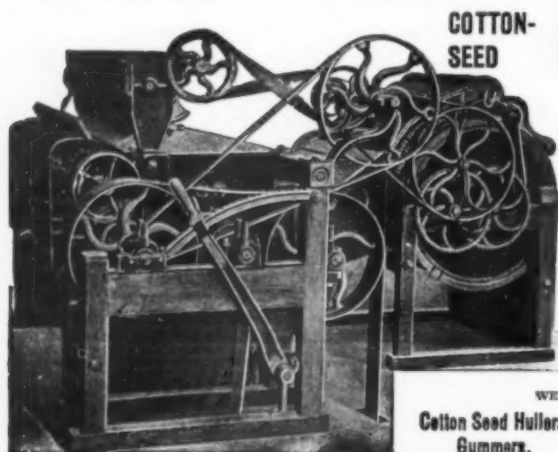
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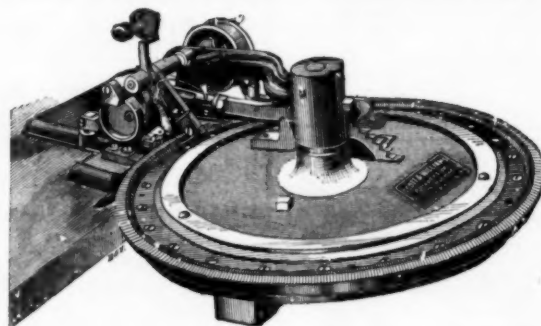
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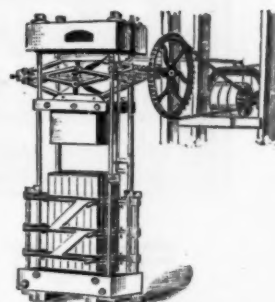
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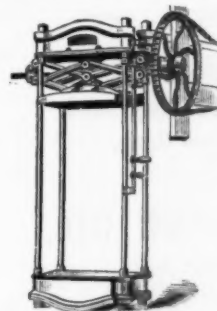
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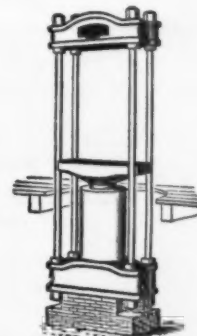
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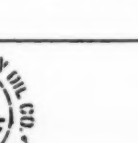
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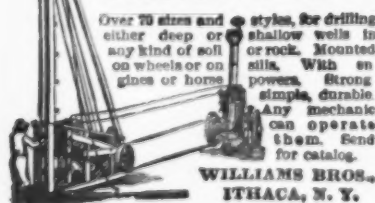
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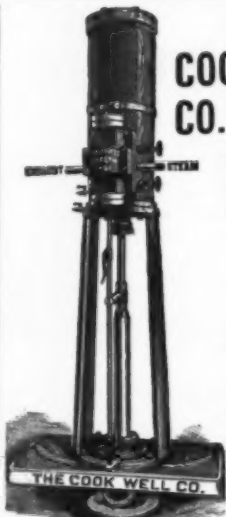
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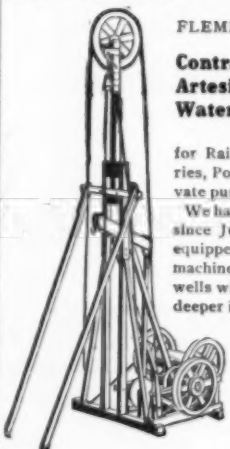
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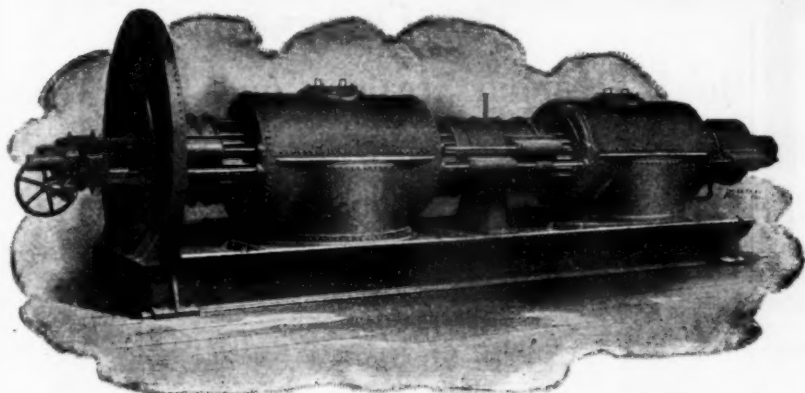
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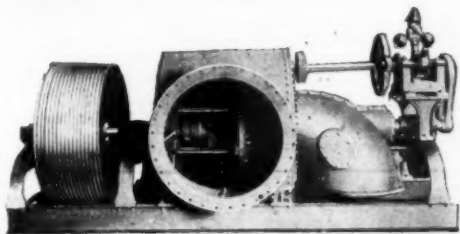
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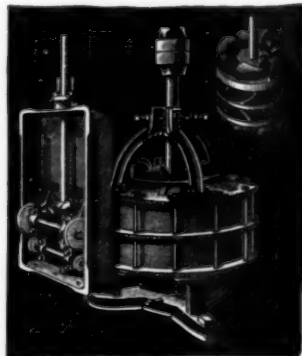
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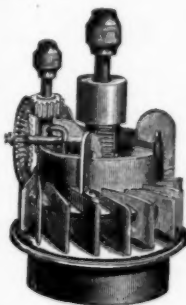
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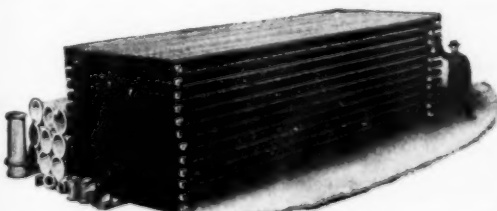
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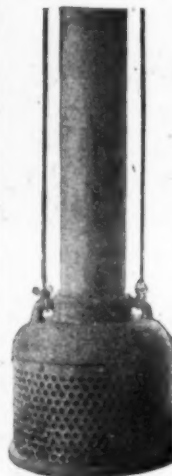
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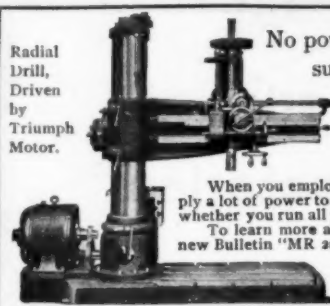
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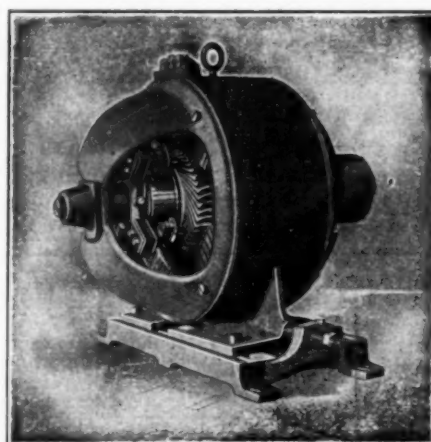
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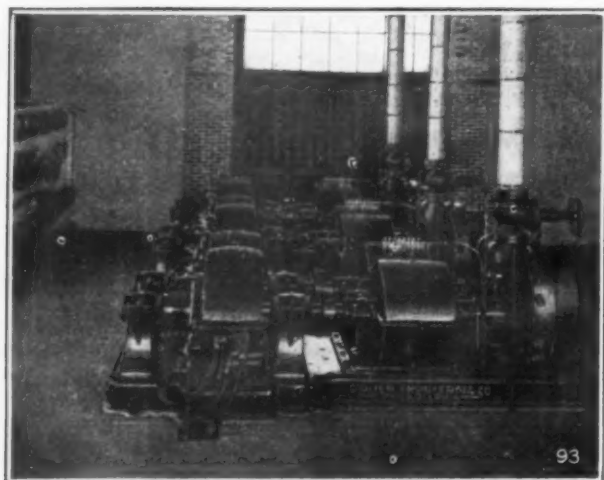
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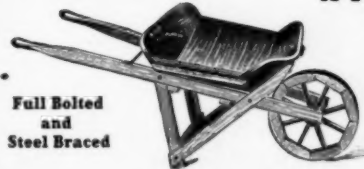
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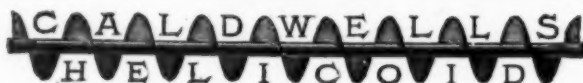
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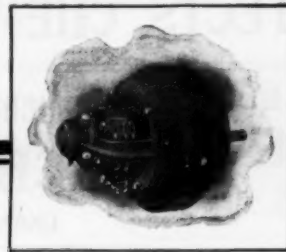
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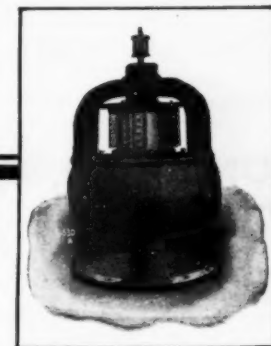
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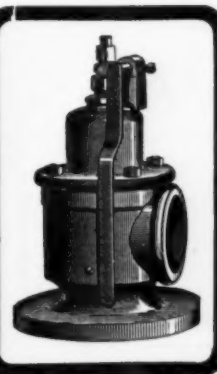
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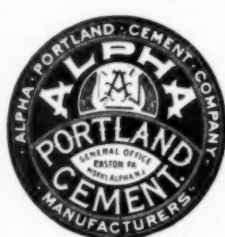
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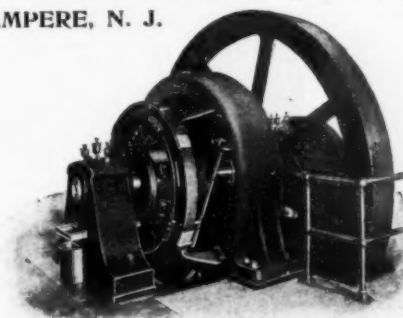
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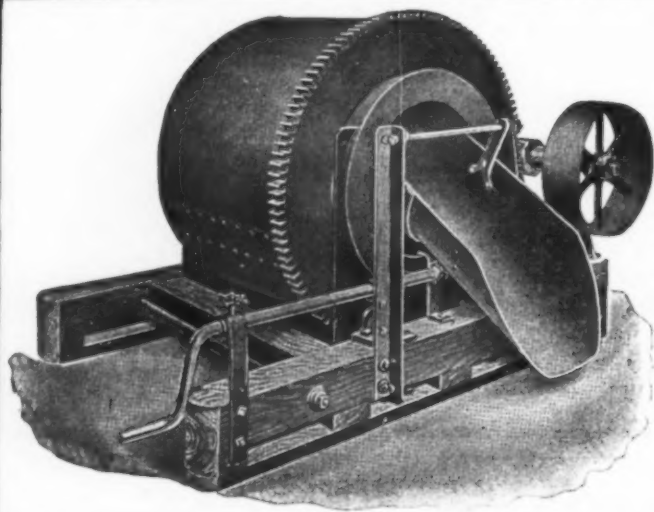
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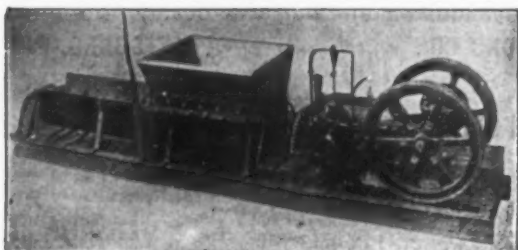
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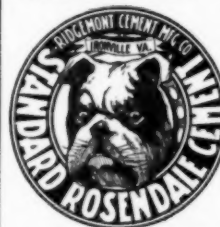
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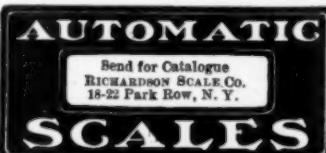
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 Union Iron Works Co., Selma, Ala.
 Vail & Murdoch Iron Works, Charleston, S. C.
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 Westinghouse Machine Co., Pittsburg, Pa.

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 Columbus Machine Co., Columbus, O.
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 Westinghouse, Church, Kerr & Co., Pittsburg, Pa.
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 Pawling & Harmschfeffer, Milwaukee, Wis.

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 Baltimore-Maryland Engraving Co., Baltimore, Md.
 Middleton, J. W., & Co., Chicago, Ill.

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 Means & Fulton Iron Works, Birmingham, Ala.

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 Pollock, Wm. B., Co., Youngstown, O.

Furnaces. (Retorting.)
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 Crosby Steam Gauge & Valve Co., Boston, Mass.

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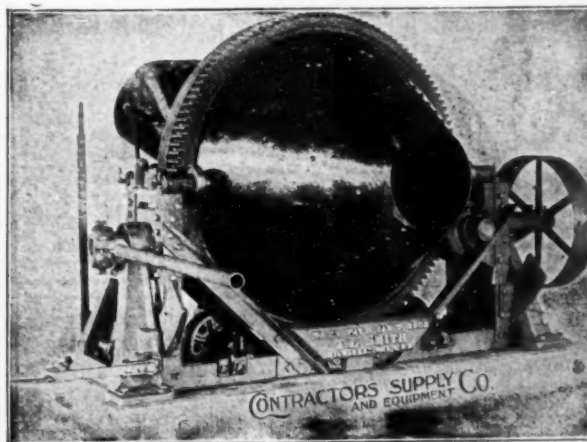
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 material hand mix-
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 Mixer you get two
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1. Your Work is
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 2. Its Cost is the
 Least.

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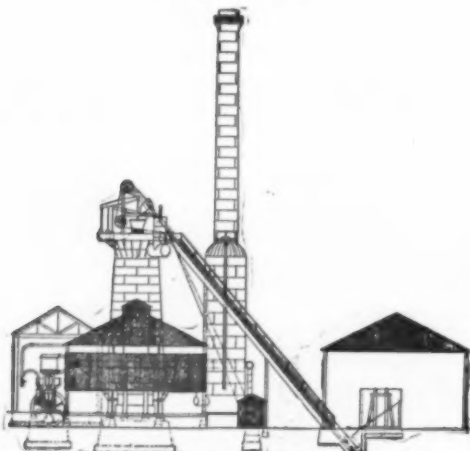
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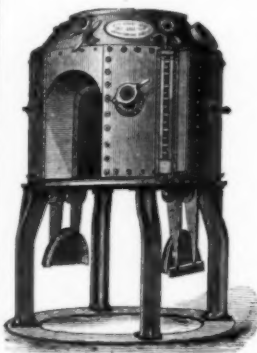


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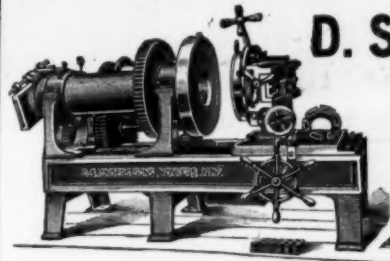
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Maryland Lime & Cement Co., Balto., Md.
Southeastern Lime & Cement Co., Charleston, S. C.
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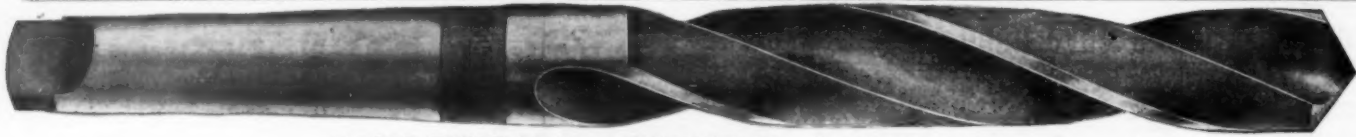
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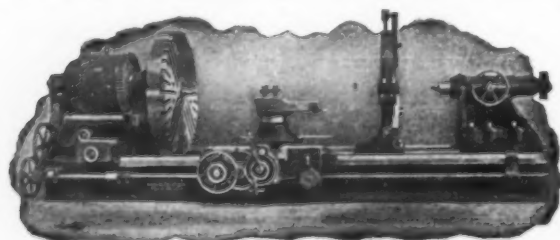
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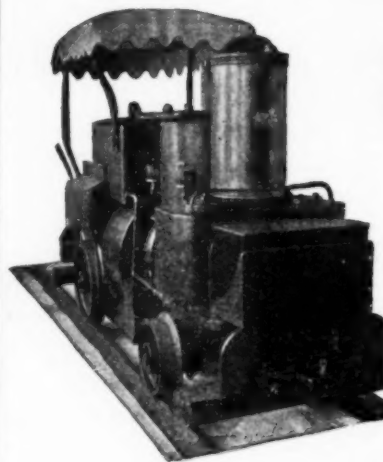
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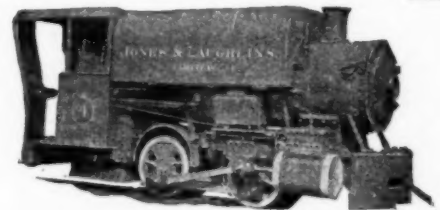
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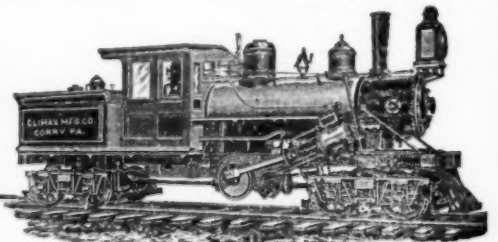
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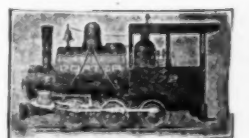
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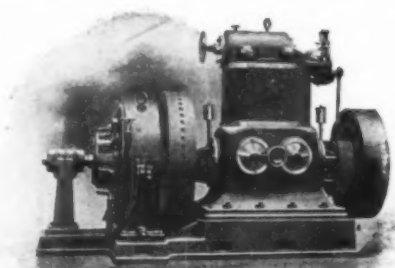
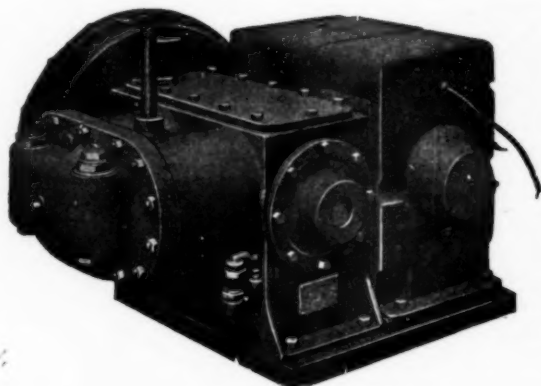
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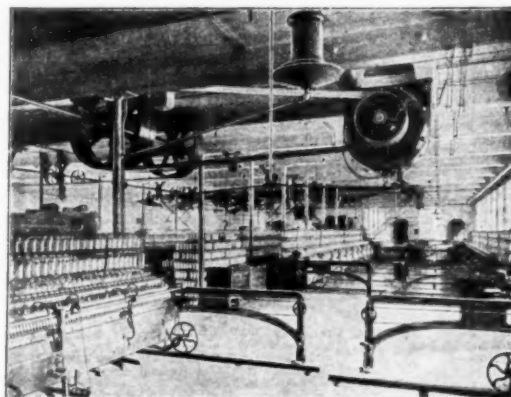
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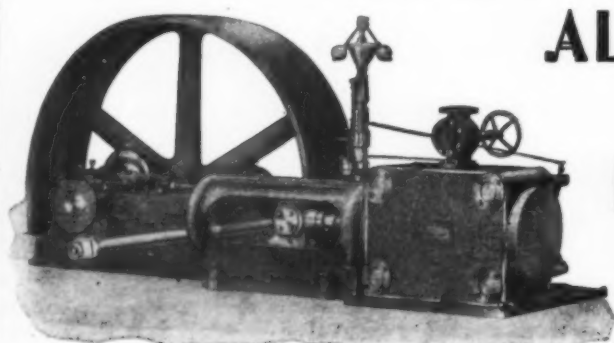
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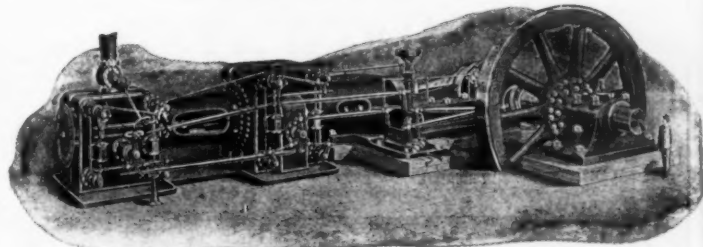
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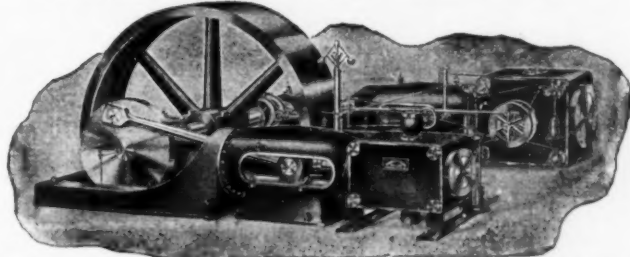


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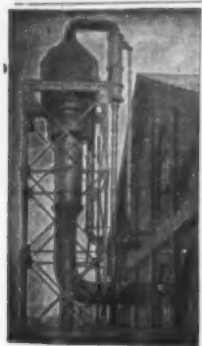
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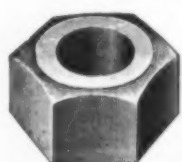
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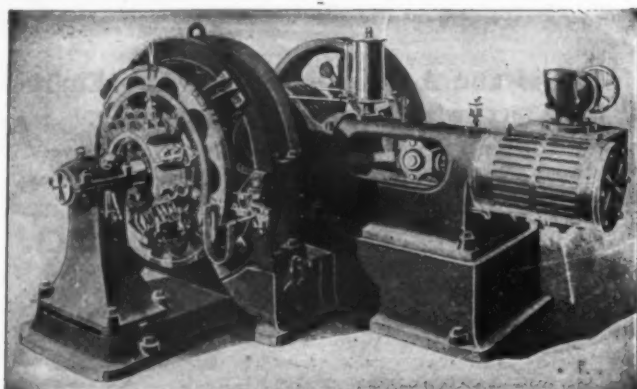
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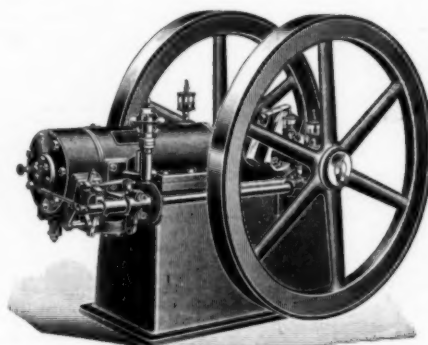
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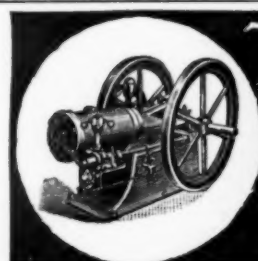
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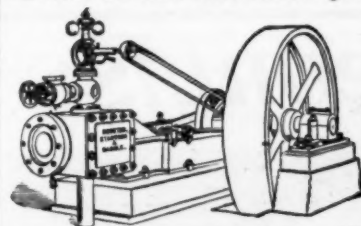
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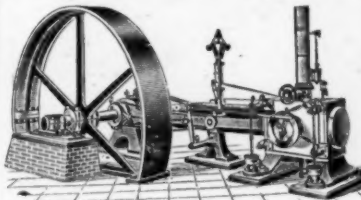
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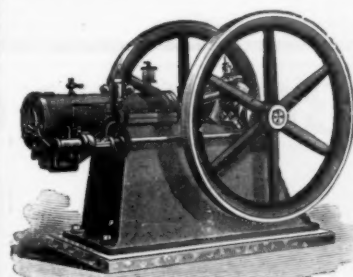
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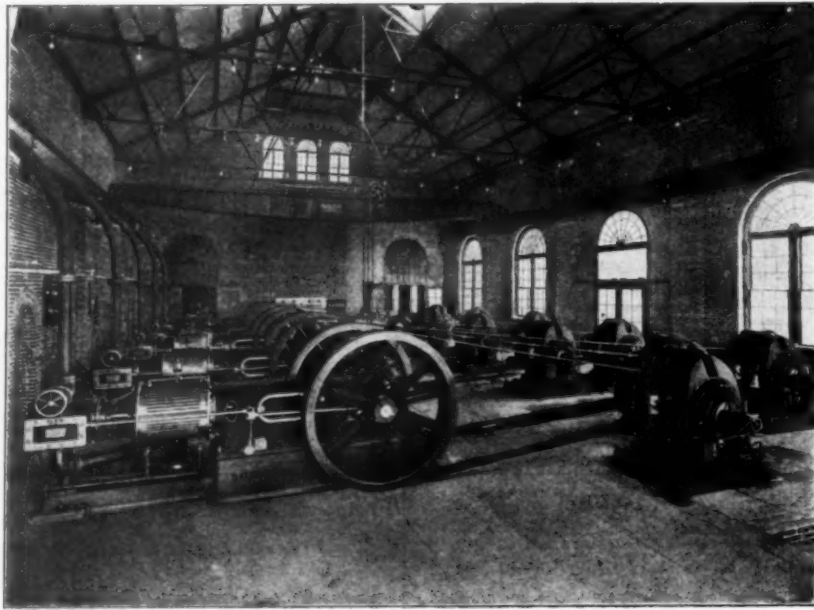
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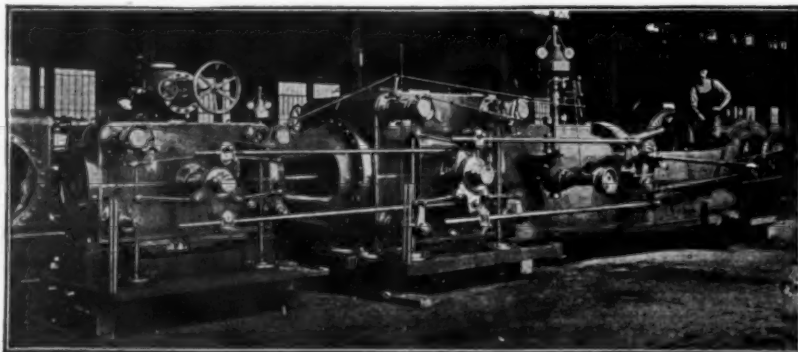
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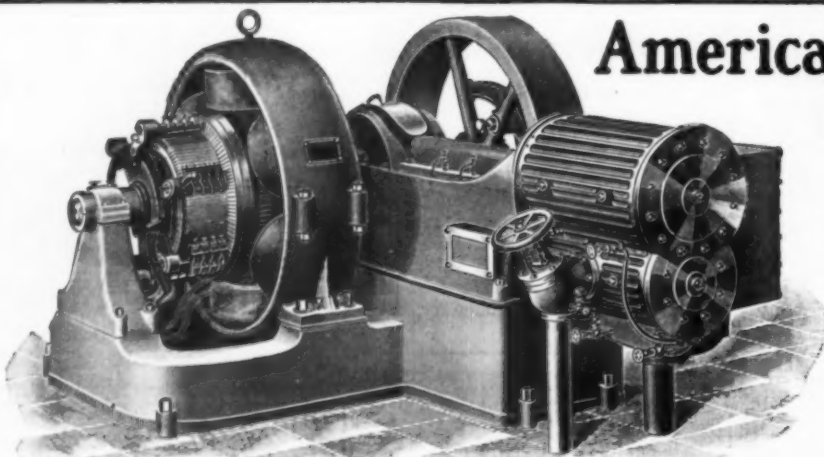
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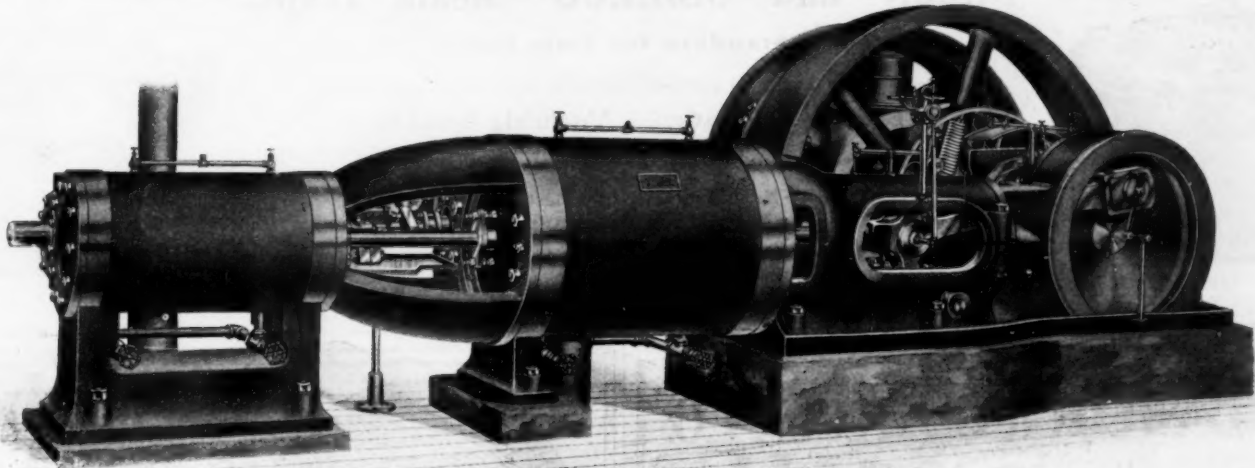
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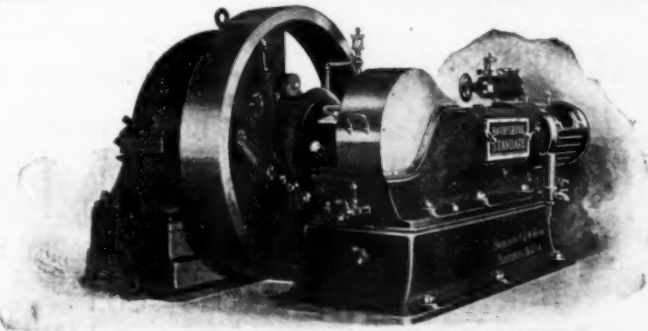
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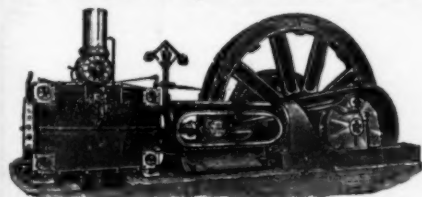
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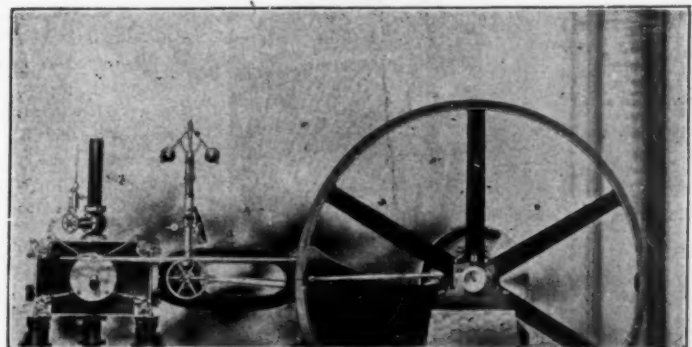


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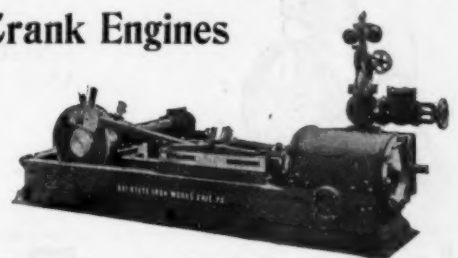
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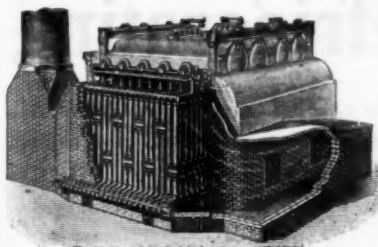


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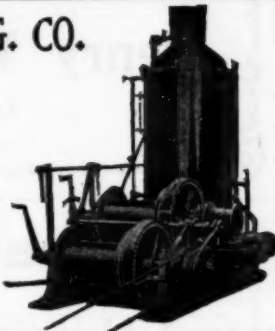
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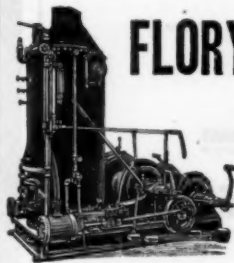


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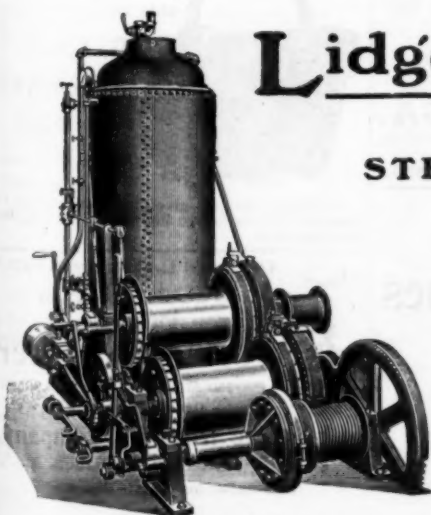
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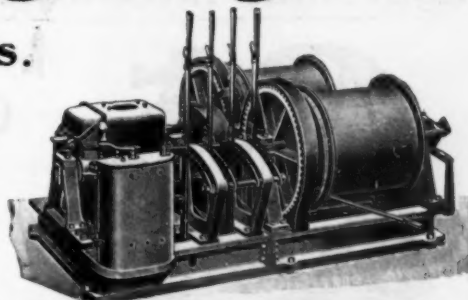
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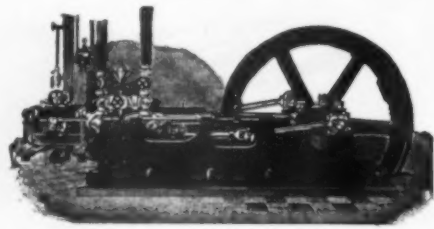


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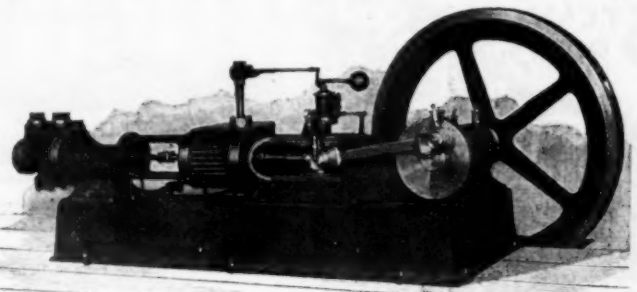
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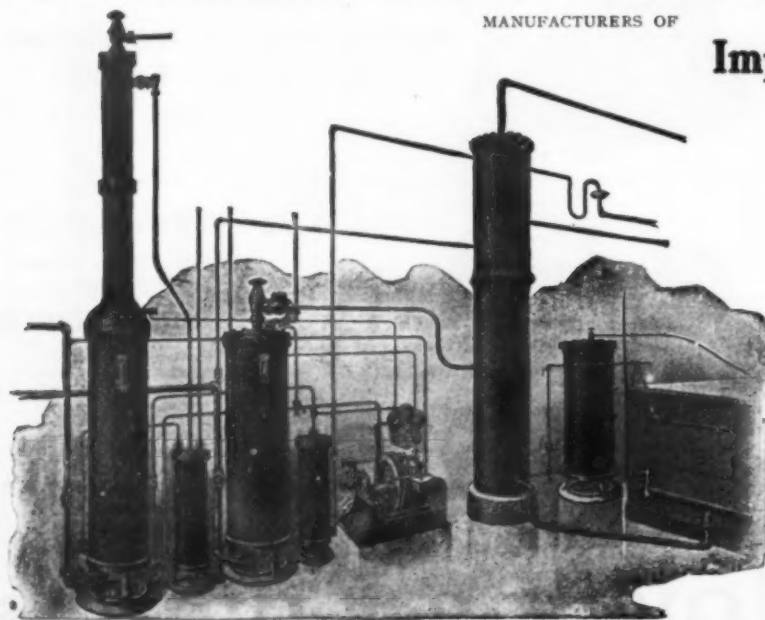
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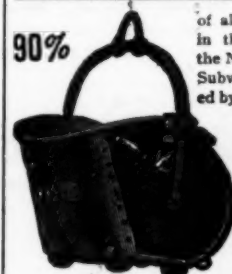
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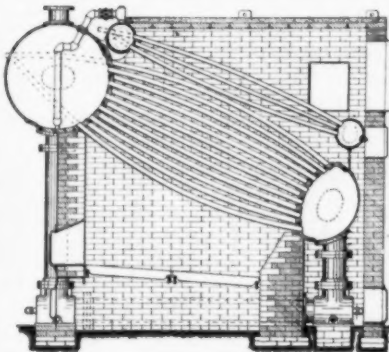
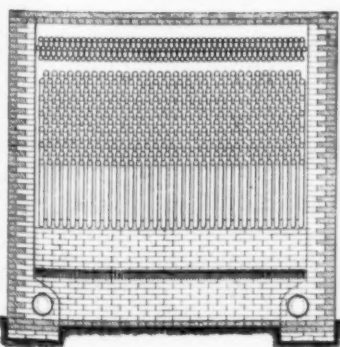
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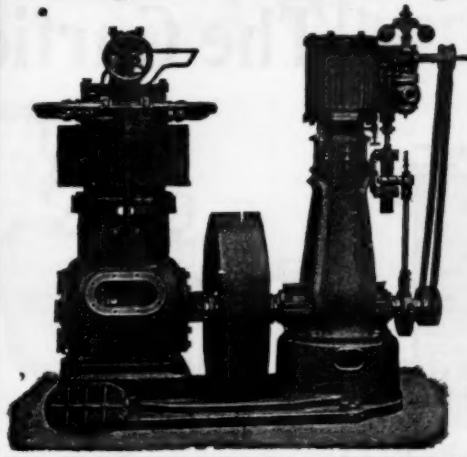
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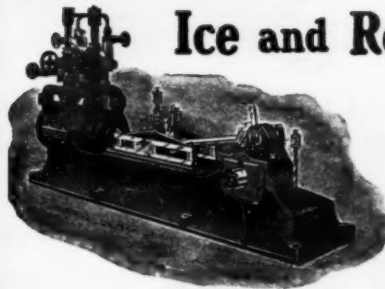
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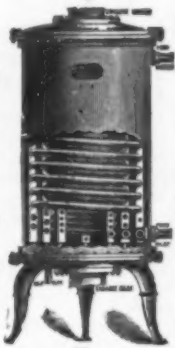
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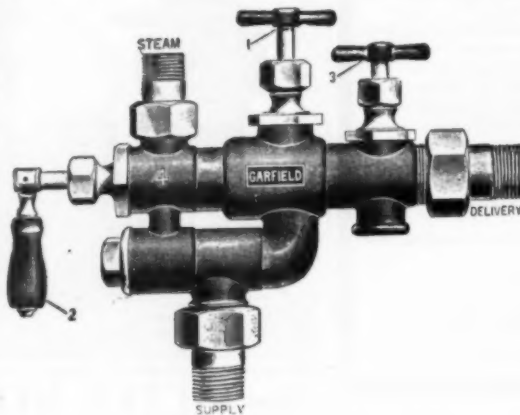
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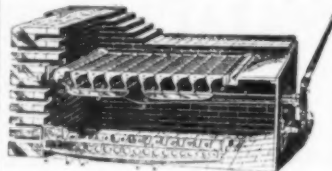
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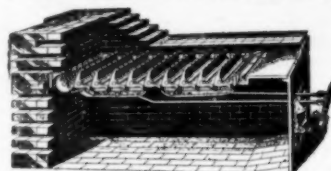
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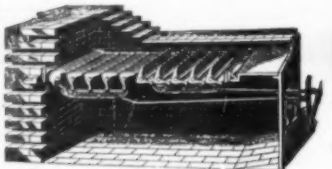
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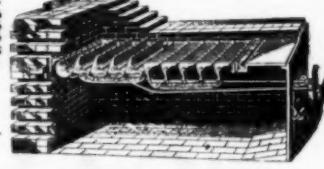


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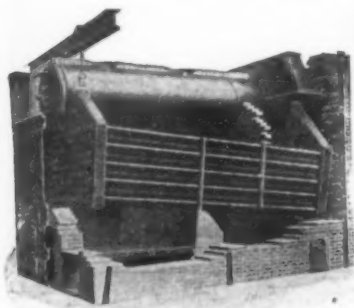
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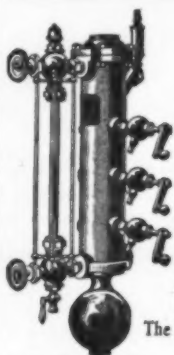
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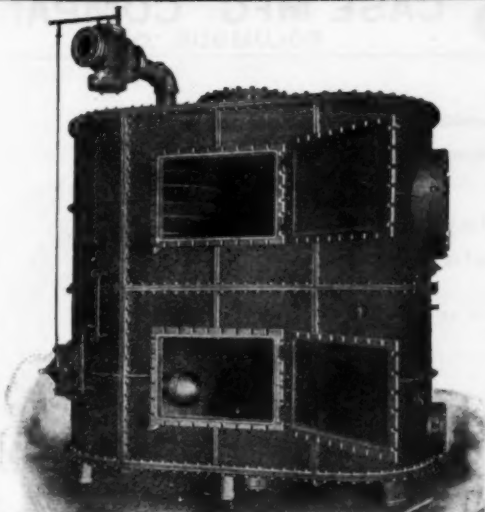
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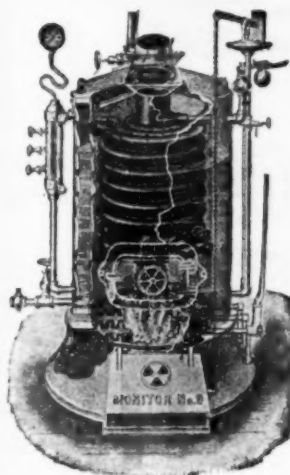
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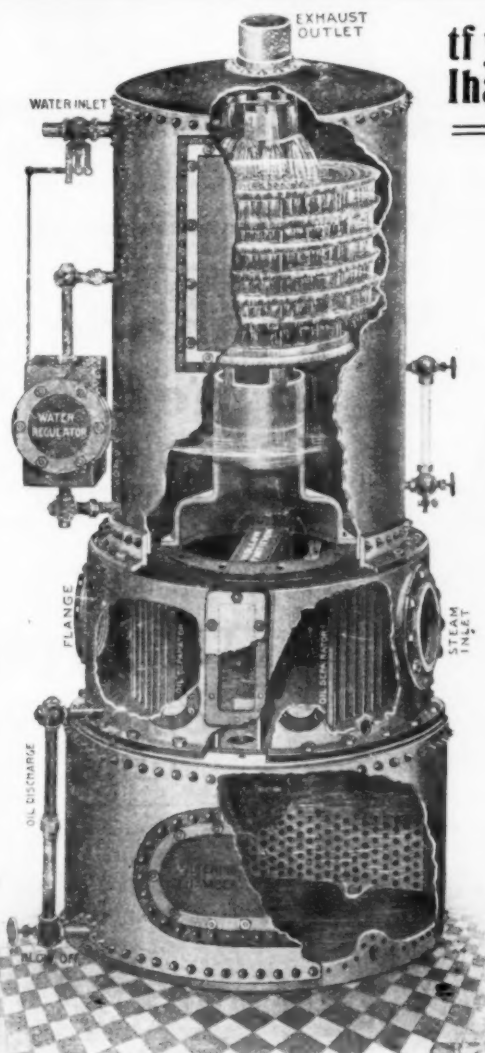
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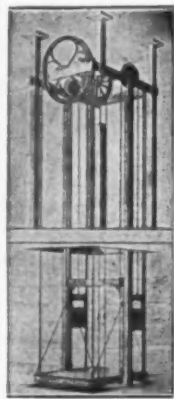
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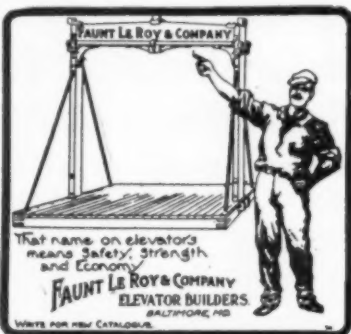
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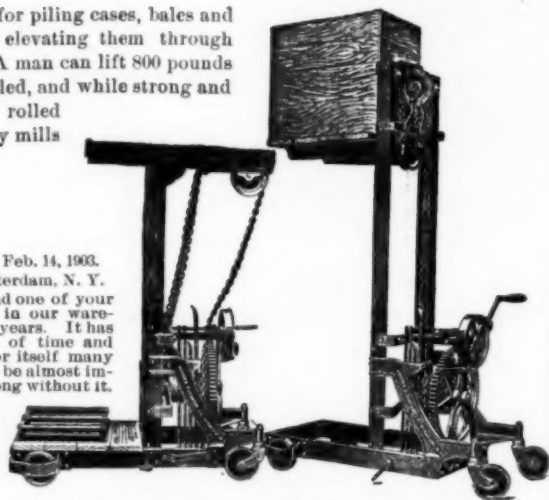
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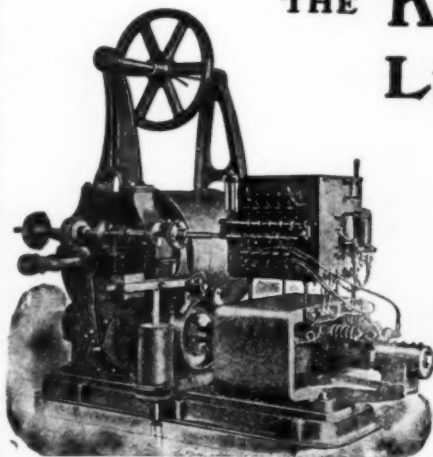
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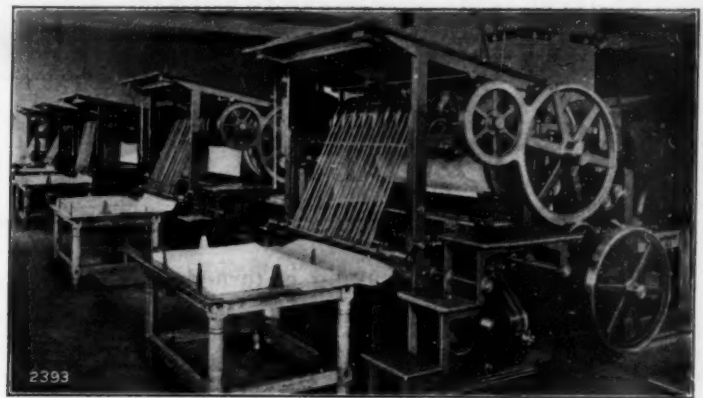
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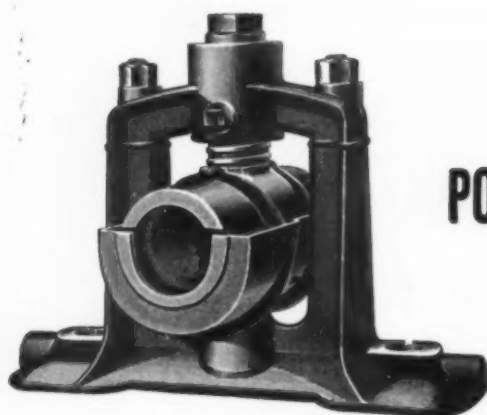
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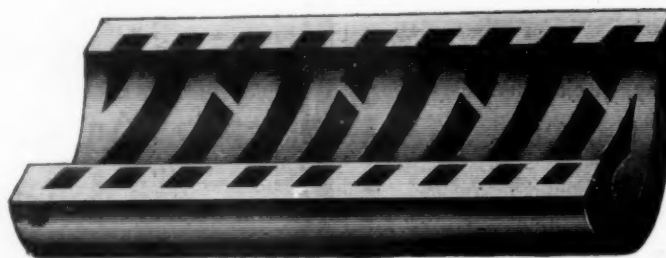
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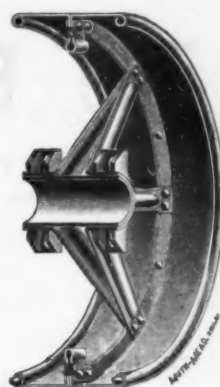
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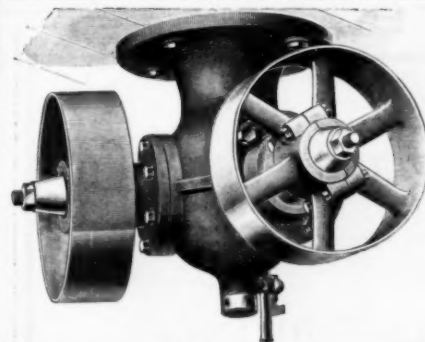
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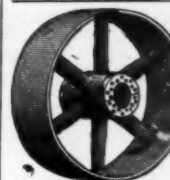
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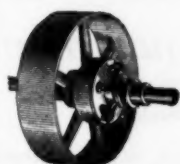
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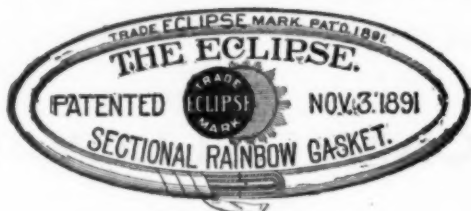


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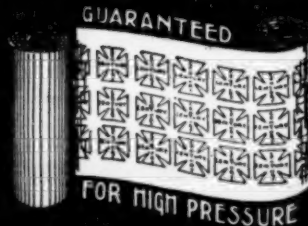
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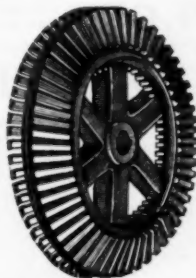
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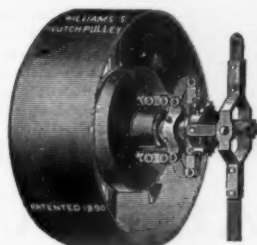
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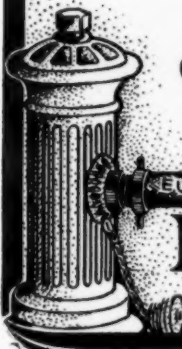
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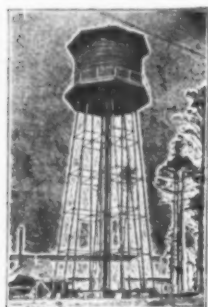
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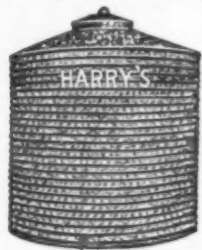
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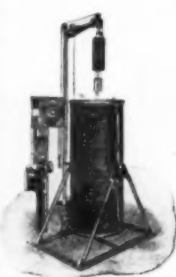
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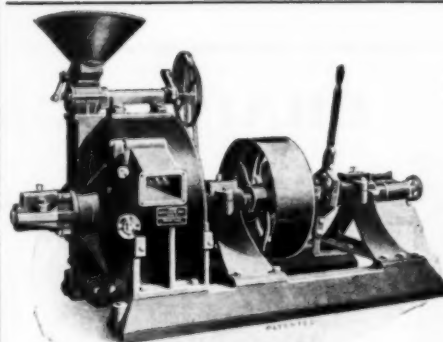
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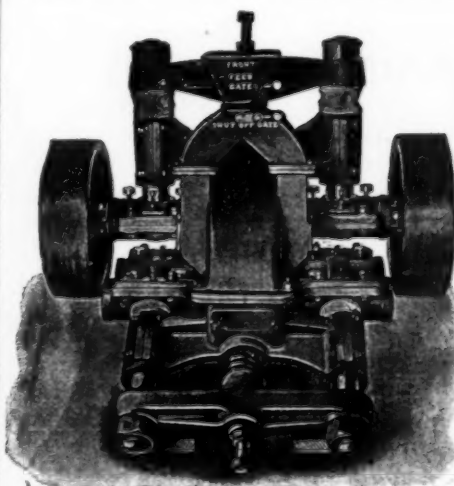
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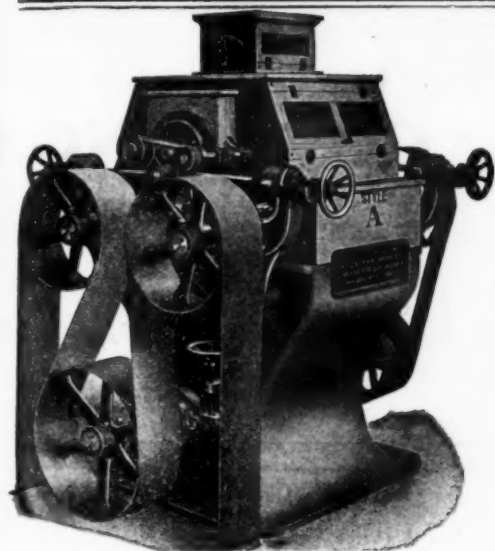
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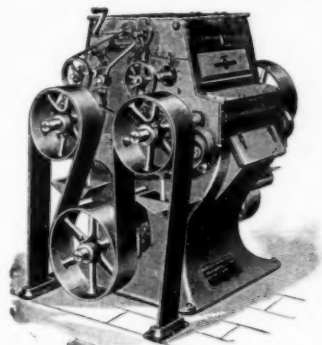
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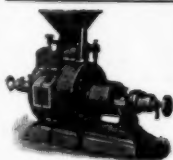
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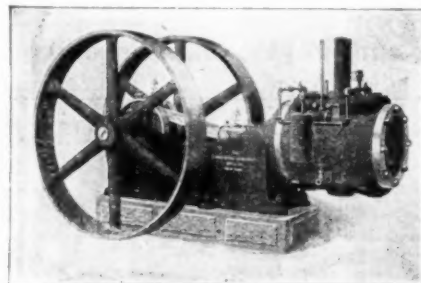
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